

# THE ARCHITECTURAL RECORD

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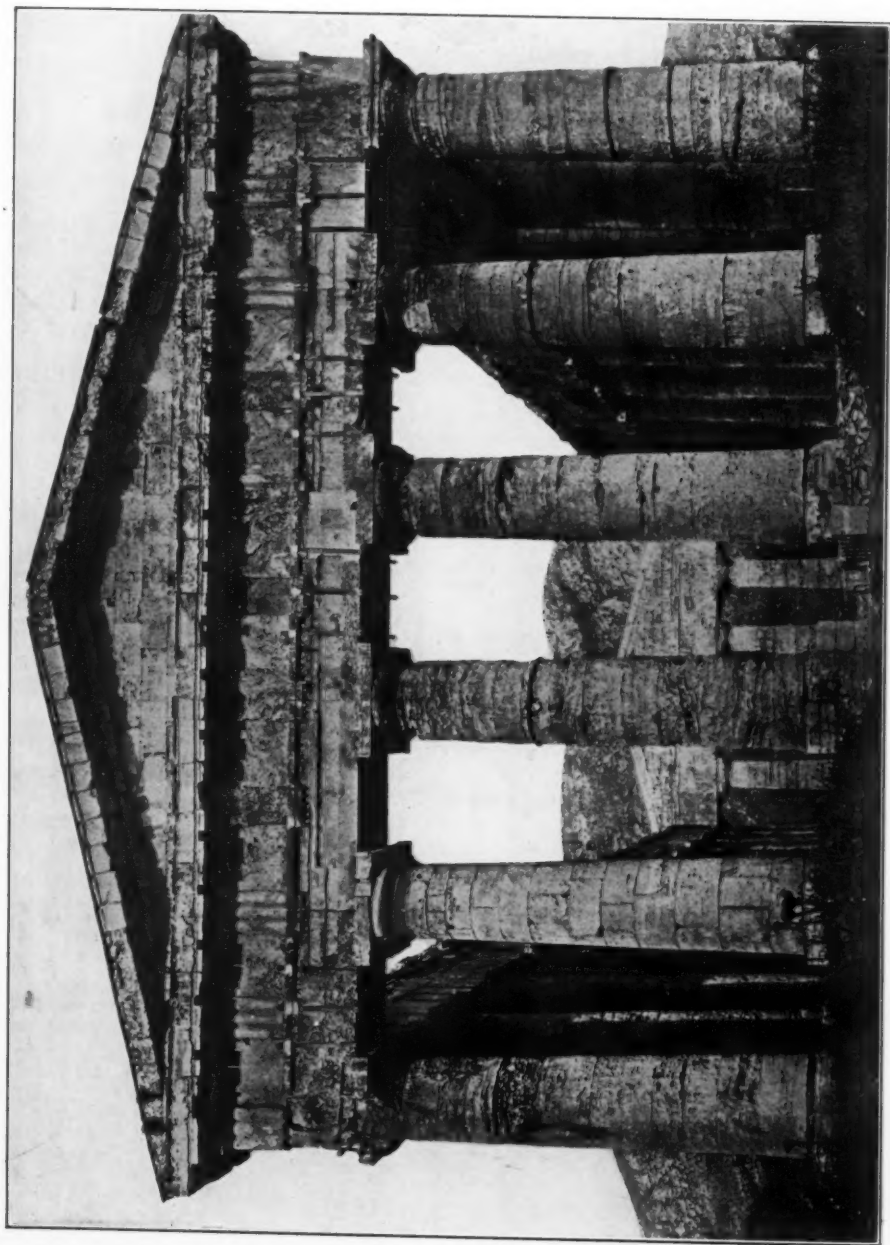
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SEGESTA, TEMPLE (SICILY) IN UNFINISHED STATE, SHOWING UNCUT DRUMS.

# The Architectural Record

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## ✓ Greek Architects

Greek architecture is very close to us: yet Greek architects seem remote and shadowy, in strong contrast with our ideas about Greek sculptors. We vividly associate Phidias with the Parthenon sculptures, Polyclitus with his well-poised athletes, Praxiteles, with his "Faun" and "Hermes," and to each man we attribute a distinct style. But how many of us can say that the Athenian Propylaea evoked the name, far less the style, of Mnesicles; the Parthenon that of Ictinus; the Mausoleum of Halicarnassus that of Pythius? Only a few specialists know that the authorship of many more of the greatest works of Greek architecture is an ascertained fact: we know who built such theatres as those at Syracuse and Epidaurus, such temples as those of Samos, Ephesus, Delphi, Olympia, Delos, Argos, Phigalea, Tegea, Eleusis, Priene.

These great names should be on the list of those whom the world delights to honor. But, you may object, of what use is it to know their names unless we can go further and learn something of their personality and style; how they solved the architectural problems of their day and what relation these problems bear to those of our own day; what their education and social condition were; whether they were interested in theory as well as practice; whether and how they made architectural drawings and models; made estimates and drew up specifications and contracts; what were their relations to their clients, public and private, to the contractors and builders, and to the workmen. Connected with these are the less personal questions of building laws,

the methods of construction, the materials, implements and instruments in use in Greek lands.

It is by no means impossible to answer most of these questions, with the help of Greek literature and inscriptions; and the lack of any attempt to do it has led to the present article, which aims at giving to American architects as intimate a view as possible of their Greek confreres both as men and as artists.

### THE SEVEN GREAT ARCHITECTS.

The Greeks themselves had a clear conception of the personality and prominence of their architects. In the Alexandrian age—shortly before the Christian era—when everything famous went in groups of seven, there were seven greatest Greek architects in the opinion of the day, as reported by Varro, as well as seven wonders of the world. These seven were selected from all of Greek history and were: Daedalus, Chersiphron, Ictinus, Menecrates, Philon, Archimedes and Dinocrates. Of these we are familiar with all but one from other historic sources. Daedalus represents the mythical, oriental stage of the hero-architect, the primitive Pelasgic style of immense irregular stone masonry with decoration in colored stucco or fresco, as well as in metal. His supposed masterpiece, the palace of Minos in Crete, so famous under the name of the Labyrinth, has now been excavated in all its sumptuousness as the most magnificent proof of the advanced civilization of the Greeks before the Trojan war (c. 2000 B. C.).

The second on the list, Chersiphron,

built (vi. cent. B. C.) the national temple of the Ionian Greeks, Diana of Ephesus, with contributions from all the Greek cities of Asia Minor. This is the greatest if not the earliest example of the archaic Ionic style, when wood and terra cotta were being abandoned for stone, and entirely new canons of proportion and decoration were invented. His work was probably epoch-making.

the leader of the Attic School in the Praxitelean Age, in both religious and civil architecture, building the great Arsenal, completing the temple of Eleusis and building its portico. He was the apostle of the new practical utilitarianism which heralded the union between architecture and engineering, so characteristic of the last centuries of Greek art.

The sixth architect, Dinocrates, was



EPHESUS, TEMPLE OF DIANA.

Fourth Century B. C., Design of Paeonius for carved lower drum of columns.



EPHESUS, TEMPLE OF DIANA.

Fragments of Sixth Century B. C. Design of Chersiphron (?) for Carved Lower Drums of Columns.

There is no corresponding architect on this list to be the standard-bearer of early Doric, as we see it in Sicily and South Italy, but the next name is that of Ictinus, with his masterpieces, the Parthenon and the temples of Eleusis and Phigalea. He typifies the perfection of Attic Doric and the highest achievements of the next era, that of Pericles (middle v. cent.).

Of the fourth, Menecrates, we know nothing, but Philon, fifth on the list, was

the favorite of Alexander the Great, and the builder of Alexandria. His magnificent plans for city construction on a level formed the basis of most succeeding work on a large scale, such as was shown in the founding of the great city of Antioch under the Seleucid Kings. He seems to have developed the earlier ideas of Hippodamos in planning a well-balanced and monumental city, with wide and regular streets, and with public



buildings at the right intervals and sites. Finally, in Archimedes, the seventh, we have the highest product of the mechanical and mathematical genius in architecture as distinct from the æsthetic, a peculiarity of Greek art just before the Roman conquest, when engineering became so prominent a factor. The recent discovery of one of his lost works in Constantinople is now explaining his genius to us.

These seven men, therefore, selected by the Greeks themselves, represent the main periods and phases of Greek architecture from the beginning to the age of Augustus. A number of others might be added, who were of equal prominence. Such men were better known and more highly esteemed than the contemporary sculptors and painters, if we except a few men of the decadence, like Zeuxis and Apelles. This high position is granted to them clearly for three reasons. The education of an architect was necessarily more thorough and varied than that of a sculptor or painter, as we shall see. Then, in the economy of the Greek states, the architect took an important and necessary part, directing the work of other artists. And, most important of all, the sculptors and painters worked with their own hands and so lost caste, while the architect, planning, but not doing any manual labor, stood on a higher social level. He was a gentleman, practicing a liberal art: they were mere mercenary craftsmen.

#### VITRUVIUS ON AN ARCHITECT'S EDUCATION.

The Greek idea of the science of architecture and of the knowledge required of an architect is best given by Vitruvius in his *Handbook of Architecture*, written early in the reign of Augustus, but largely copied from earlier Greek authors, both in ideas and material.

"Architecture," he says, "is a science compounded of a variety of disciplinary studies and many kinds of information, by means of which all the works of art produced by the other arts can be judged. It is acquired by *practice* and *theory*. . . . The architects who have tried to reach perfection merely by the work

of their hands without the aid of letters, have been unable to obtain recognition for their work; and on the other hand those who have relied entirely on literary discussions and labors have had the reputation of pursuing a shadow rather than the reality. . . . No one should therefore pretend to be an architect who has not made himself proficient in both theory and practice. . . . He should have literary attainments in order to aid his memory by copious notes. He should be a skillful *draughtsman*, so that he may portray graphically the work to be executed: versed in *geometry*, which is so great a help to architecture, for example in teaching the use of the circle, level and square, and in expressing the norms and directions of lines; also acquainted with *optics*, so as to obtain proper effects of light in different sides of his buildings; a good *arithmetician*, so as to calculate exactly the cost of buildings, work out the ratios of measurements and difficult questions of symmetry by the methods of geometry. He must also be acquainted with *history*, in order to be able to give a satisfactory explanation, for instance, of the decorative work so often used in buildings. . . . A tincture of *philosophic* study is necessary to keep him from meanness or covetousness, and to give him a love of good faithful work, dignity of bearing and a care for his good fame. He must have studied *physics* on account of the numerous questions he is called upon to decide, for example, in connection with aqueducts. *Musical* knowledge is necessary . . . as in the case of the acoustics of theatres, where bronze vases must be placed under the seats according to certain mathematical rules, so as to concentrate and give out musical sounds according to harmonic law. . . . *Medicine* will teach the peculiarities of the different climates, the healthy or unhealthy qualities of air and location, and the use of water. A good acquaintance with *law* is necessary to decide questions of party-walls, roof-outline, sewage, lighting and drainage and all other questions that must be settled by the architect before beginning a building, lest after the work is done, he leave food for lawsuits to the owner and lest he be a prey

to lawyers, lessees or contractors. . . . Even *astrology* is useful for a knowledge of the points of the compass . . . of equinox and solstice and astral movements."

Such a variety of requirements, Vitruvius adds, while it involves a broad, liberal education before one can begin to specialize, implies a knowledge merely of the principles of these branches except in their application to architecture. "An architect," he says, "must have the *theory* of all these branches; the *practice* only of his own."

#### PROFESSIONAL AND SOCIAL STANDING.

This picture may seem overdrawn and an unrealizable ideal, but Greek sources supply evidence to show that it is fairly representative of the profession at its best. In fact, Vitruvius in his late day has lost sight of many characteristics of the finer training of the Greek golden age, in the sciences of perspective, optics and proportions. An architect of this type can hardly have been a common product, but one of the fine flowers of Greek culture. Plato himself mentions the profession as open to the citizens of his ideal state to whom he forbids the occupations of the artisan and the tradesman. To express in dollars and cents the different value set upon his services as compared to those of the artisan there comes a Platonic dialogue, which contrasts the value of masons, who were worth only five or six *mines* (= 500 or 600 drachmas = c. \$100 to \$120), with that of architects, who, as slaves, were worth about twenty times as much (10,000 drachmas = c. \$2,000), "for," he adds, "architects are scarce throughout Greece." On the other hand, the accounts of certain national sanctuaries show that architects sometimes received hardly more than day laborers, and that for these men of minor importance there was a sliding scale of wages varying from two to four drachmas per day (c. 40 to 80 cents), for long engagements.

There were, in fact, many sorts. Some practiced independently and were either themselves always on the move, or sent about drawings, models and specifications. Others occupied salaried positions and belonged to the class of officials. They

were either permanently attached to great sanctuaries, such as Delphi, Olympia or Eleusis, where there was nearly always something to be done in the way of construction or repair; or they received special appointment as supervising architects for a given job, such as the building of a theatre, temple or harbor. Finally there were the slaves, in the service of the state or of wealthy individuals, who often hired them out.

Quite naturally the independent architects had the higher position and emoluments. The superintending architects at Athens were paid as little as \$6.50 per *prytany*, doubtless because the work took only part of their time. On the other hand a very honorable position was that of city architect, quite common in the period just before and after Alexander, when a single architect or sometimes three were given complete charge of the repairs and new structures throughout the city.

Another point. "It is extremely probable," says a French writer, "that the Greek cities, when preparing for anything so important,—religiously, politically, and commercially,—as the foundation of their colonies, added a number of architects to the secular and religious leaders of the expedition." Plato's description of his ideal city in twelve quarters (as at Thurium) and with carefully located public buildings, makes this almost certain. The three cities laid out by Hippodamus, the planning of Alexandria by Dinocrates, of Priene by Pythius, and of Antioch by Xenaëus—all but the first during the age of Alexander—are instances of the power given to a single architect. Earlier still we hear of a group of architects called from Paestum in Campania, where they had presumably been building one or more of the temples we still admire, to build the city of Velia, which was made one of the most beautiful Greek cities of South Italy.

Strabo in his travels attributed the order and beauty of public buildings in certain cities to the administration of all such matters by city architects. Speaking of Rhodes, he says: "As at Massalia and Cyzicus, so here particularly everything relating to architects . . . is ad-

ministered with extreme care." Of Cyzicus, he says: "There are three architects to whom is entrusted the care of the public edifices and engines."

Perhaps an anecdote about Dinocrates will illustrate the high position often reached. This architect set out from Macedonia to join Alexander's army, hoping to gain the royal favor. He came provided with letters of introduction to men of rank about the King's person, but, though they received him kindly, and made him many promises, they put off presenting him to the King until, tired of waiting, Dinocrates took the matter into his own hands. He was tall, of agreeable countenance and dignified appearance. Relying on these natural ad-

statue in his left hand, and in his right a huge vase, into which shall be collected all the streams of the mountain, which will thence pour into the sea." Alexander's fancy was tickled at the picture, and though the wild scheme was never attempted, it accomplished its purpose, for Alexander kept Dinocrates, made him his favorite architect and decorator until the time of his death, giving him the general direction of the planning and building of Alexandria, by which future architecture was so strongly influenced.

#### TRAINING.

How did the Greek architect obtain his education? We will suppose that he has had what corresponds to the undergrad-



MILETUS, CAPITAL OF TEMPLE OF APOLLO: DESIGN OF PAEONIUS.

vantages he put off his ordinary clothing, anointed himself with oil, crowned himself with a poplar wreath, slung a lion's skin over his left shoulder, and carrying a heavy club, sallied forth to the royal tribunal at an hour when he knew Alexander was dispensing justice. His sensational appearance as a Hercules drew such a crowd that Alexander's attention was attracted and he ordered the "freak" to be brought before him.

"Who are you," he inquired.

"A Macedonian architect," replied Dinocrates, "ready to suggest schemes and designs worthy of your royal renown. I propose to shape Mt. Athos into a statue of a man holding a spacious

uate course in our colleges and has mastered what Vitruvius calls the principles of the subjects required for preparatory work, which was, substantially, the education of a typical young Greek gentleman of the intellectual type. At the same time it often happened that the profession was selected for him and that he began specializing at a much earlier age. Plato in his *Laws* (BK. I) recommends a sort of kindergarten method to fathers who intend their boys to become architects, advising that they be supplied with miniature tools and set to building children's houses. There are numerous cases of boys educated by their fathers in the same profession.

There appear not to have been any

public art schools or academies, where the various branches were taught simultaneously: nor were there any publicly-salaried teachers. The technical teaching was neither collective nor public. The student frequented famous independent teachers who were at the head of large ateliers or offices, or had private courses: studied physics with a Democritus, perspective with an Anaxagoras, proportions with a Nexaris, mechanics with an Archimedes. Theodorus of Samos, when he was called to Sparta to build the temple

#### ARCHITECTURAL LITERATURE AND CITY PLANS.

Evidently a library was part of the preliminary equipment, for Socrates says, in one of the dialogues: "In what employment do you intend to excel, O Euthedemus, that you collect so many books? Is it architecture? For this art you will find no little knowledge necessary!" Sometimes the literary and theoretical element was developed to excess. A striking example of this was Hippodamus of Miletus, who lived at Athens in



MILETUS, BASE OF COLUMN OF TEMPLE OF APOLLO: DESIGN OF PAEONIUS.

of Athens, as early as the VI. cent. B.C., opened a school of architecture in Sparta. The custom of famous architects to embody in monographs or text-books their special theories and information, and the illustration of their masterpieces, assisted in the work of teaching. The system of apprenticeship was common in the architectural as well as in the other trades and arts among the Greeks. But it never took the form of organized labor. There were no guilds or unions with the three classes of masters, journeymen and apprentices that became the rule since Roman times.

the brilliant period of the fifth century. He was an influential sophist and litterateur, famous for his purely disinterested labors in city affairs. Apparently disgusted by the irregular and squalid streets of Athens and other Greek cities as contrasted with the superb public structures that had been rising under Pericles and his contemporaries, like oases in slums, he conceived a scheme for laying out cities throughout Hellas, a scheme which was, for its day, quite comparable to Nero's for the reconstruction of Rome, Baron Haussmann's for that of Paris, or the present *piano regolatore* for Rome,



though it could not fully be carried out except in newly-founded cities. A free hand was given him to lay out the Piræus, where some of his scheme has come to light, and his reputation throughout Greek lands became such that he was asked to draw up the plans for the new cities of Rhodes and Thurium.

Regularity of plan, with streets diverging from the market-place; a division into twelve quarters, with geometric accuracy, and at the same time a due regard for orientations and the breaking of prevalent winds by street angles, were some of the characteristics of Hippodamus' scheme, and of its imitations in later Greek times. While suited to level sites it was a comparative failure when applied to those built, like Priene, in Asia Minor, on steep mountain slopes, or about a hill, for it made little allowance for natural configuration and required elaborate terraces and cuts. It was the architecture of the pedant. Evidently the popularity of Hippodamus was enormously increased by literary propaganda and he probably required the assistance of a large office force of practical architects.

In the next century, also at Athens, we find a brilliant and far better-balanced union of literary and artistic talent, in Philon of Eleusis, an accomplished orator and writer, but, unlike Hippodamus, primarily a practical architect and engineer. His fame rests on the construction of the great arsenal at the Piræus and of the colonnade of the sanctuary at Eleusis. Valerius Maximus says of him: "Athens is proud of its arsenal and well it may be, for it is admirable. Philon, its architect, gave an account of his work in full theatre, and the most cultured audience in the world applauded him as much for his eloquence as for his architectural genius."

All trace of this arsenal was supposed to be lost, but the original specifications by Philon have recently been recovered, drawn up with amazingly minute attention to detail.

#### ARCHITECTS' MONOGRAPHS.

Such monographs as this address by Philon, referred to by Valerius Maximus, were commonly written and circulated by

prominent architects whenever they produced a work in which their architectural ideas were consummately embodied. At a very early date (VI. cent.) Theodorus of Samos wrote on the famous temple of Hera at Samos, the rival of the temple of Ephesus, which he had built with Rhoecus; and Chersiphron wrote, in collaboration with his son, Metagenes, a treatise on their temple of Diana at Ephesus. The influence of these, the two greatest temples of their day, must have been immeasurably increased by these monographs.

Although not one of them has been preserved, it is evident from hints and extracts that these descriptions had both a theoretical and a practical part. The architect explained the theories and norms which he has sought to embody, as well as any peculiarities or novelties of execution. Chersiphron, for example, detailed his new mechanical devices for transporting heavy columns and epistyle blocks from the quarry to the works, and his method for hoisting them into position. As this architect was one of the leaders in the movement to substitute stone for wood and terra cotta in temple construction, he was evidently obliged to face some of the problems that had arisen in consequence, assisted, possibly, by knowledge of Egyptian methods.

#### LITERARY AESTHETIC POLEMICS.

Later architects, especially those of the fourth century B. C., living at a time when practical difficulties had been already long since overcome, laid more stress in their writings upon norms of proportion, novelties of plan, discussions of style, and questions of refinement connected with the mathematico-optical studies that played so important a role in developed Greek architecture since early in the fifth century. Schools and parties developed and discussion ran high. War raged between the Doric and the Ionic camps. Philon and Silenus defended Doric against the increasing Ionic inroads. Argelios, Pythius and Hermogenes, prominent Ionic partisans, attempted to prove that the Doric order was totally unsuited to temple architecture.

Meanwhile, less controversial and

more descriptive monographs had been quite frequent. Ictinus, with the co-operation of Carpio, had described the Parthenon, and this should be sufficient to silence those who would attribute any of its architectural beauties to Phidias. Pythius, who built in the Alexandrian age the mausoleum of Halicarnassus and the city of Priene, wrote on both subjects. In his monograph on the temple of Athens at Priene, the most exquisite Ionic temple after the Erechtheion, he probably gave his reasons for omitting the frieze both here and in the other Prienian temples, an omission so puzzling to the modern architects who have studied the magnificent ruins of Priene.

In the same way most important novelties appear to have been ventilated in literary form either by their inventors or their pupils. For instance, Argelius wrote on the new Corinthian order, so finely embodied in the temple of Athena Alea at Tegea, by Scopas. Hermogenes, a great architectural reformer shortly before Alexander, supported in his writings his two most important innovations, namely: (1) the *pseudo-dipteral* arrangement of temples, by which he secured more space around the cella, and, (2) the *eustyle* proportions in which the inter-columniations were  $2\frac{1}{4}$  diameters in place of the too-close systyle (2 diam.) or the too-wide diastyle (3 diam.) types.

This statement of Vitruvius has been verified by the German excavations at the temple of Artemis at Magnesia on the Maeander built by Hermogenes. It was actually found to be a pseudo-dipteros, and a refinement unnoted by Vitruvius was that the two central columns on each façade were spaced wider than the rest.

#### TRAVEL.

The importance of this ability of Greek architects to express their ideas in literary form can hardly be exaggerated and is probably responsible for the rapid and wide spread of certain general ideas and forms, through the multiplication of manuscripts and drawings and the enthusiasm of pupils returning to different parts of the Hellenic world from the school of the master. One result was

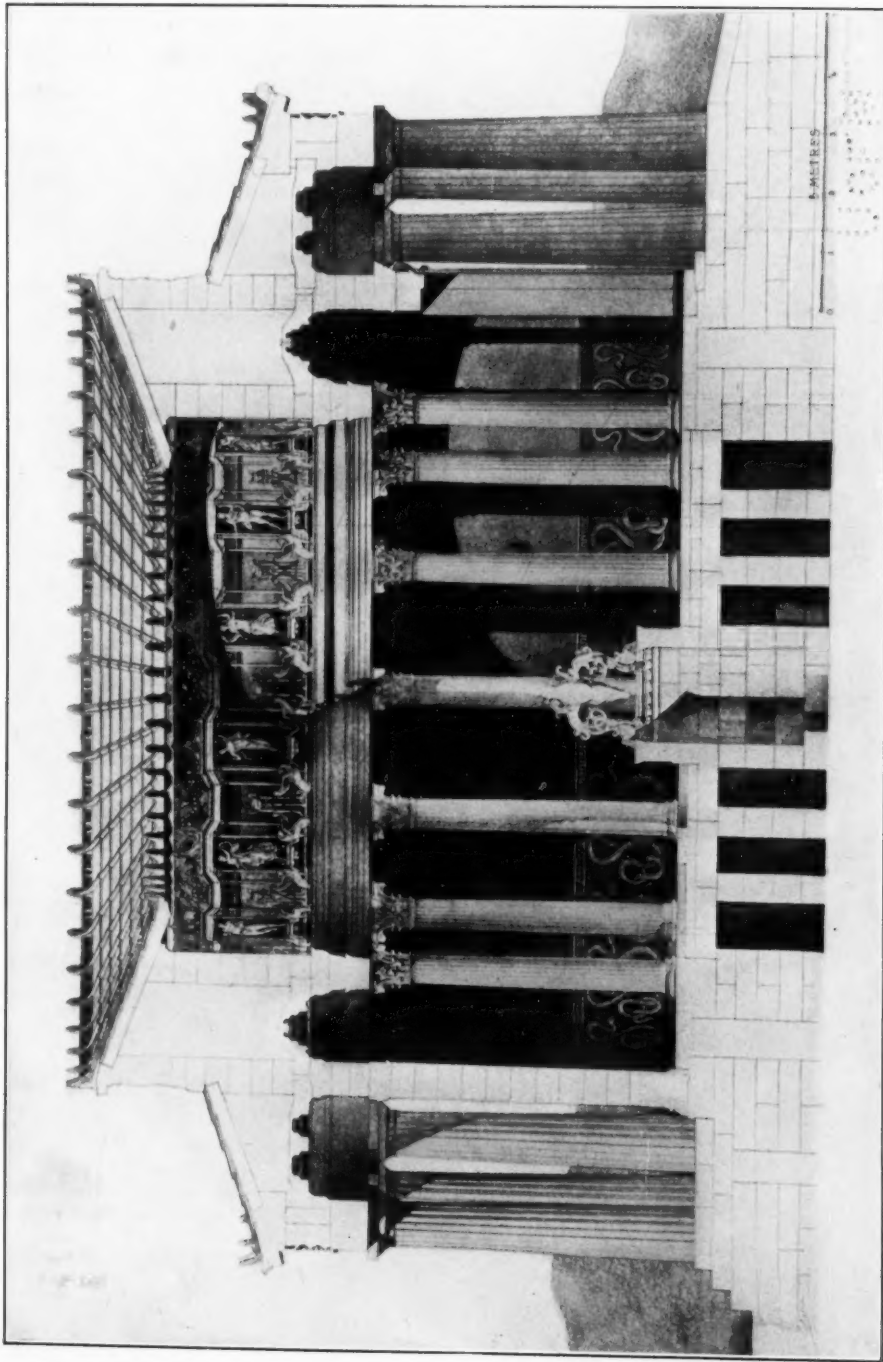
the frequent calling of these master architects to distant regions. Nothing is more striking than the broad geographical radius covered by some of them. In the sixth century B. C. the island of Samos supplied architects not only to King Croesus of Lydia, then at the head of an empire in Asia Minor, but also to the other great Oriental power, Persia, as well as to the Ionian cities and to Greece proper. Its leading artists at that time were Rhoecus, Theodorus and Mandrocles.

This Theodorus, for instance, was called to Sparta to build the Hall of Public Assembly and to open a school of architecture. There was an interchange, for Eupalinus, the best engineer of his day, was called from Megara to Samos to build the earliest known canal-aqueduct, so much admired by Herodotus. The islands at this time were still the teachers of the mainland. For example, Chersiphron went from Crete to Ephesus to build the temple of Diana, and Byzes from Naxos to Delphi to help build the temple of Apollo. This constant flow between Asia Minor, the islands, and Greece proper continued in the following period. A wholesale migration was that of 220 B. C., when King Ptolemy Philopator sent a hundred architects and sculptors to rebuild the city of Rhodes, which had been partly destroyed by an earthquake.

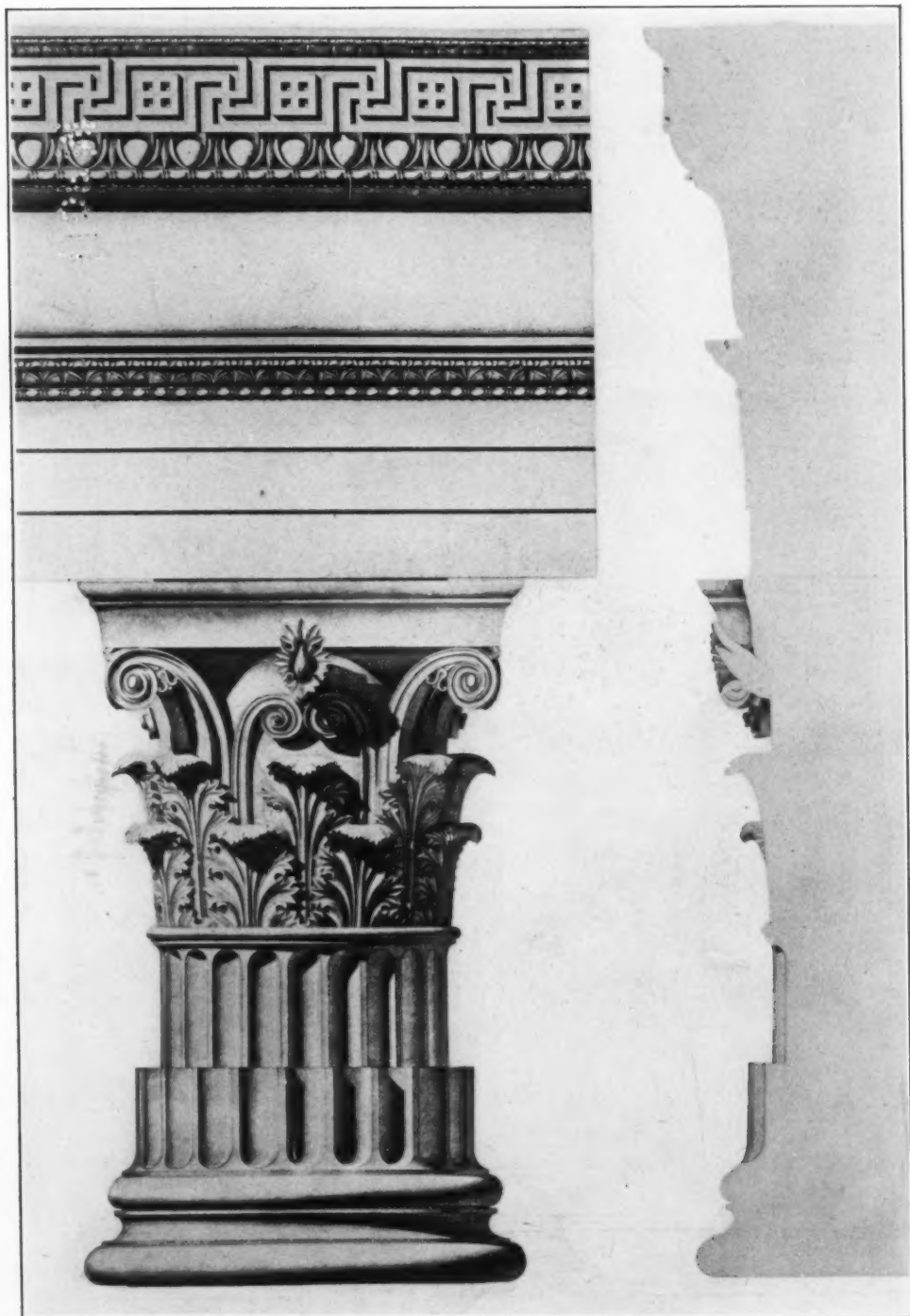
#### ARTISTIC VERSATILITY.

There is no doubt that, especially before the fourth century, these leading architects were responsible not only for the construction but in great part also for the selection and arrangement of the internal and external decoration of a building, whether painted or carved. Modern writers have often doubted that Ictinus had any share in determining the decorative scheme of the Parthenon. But Vitruvius cites the Caryatidae of the Erechtheion as examples of such decoration, the meaning and origin of which the architect must be able to explain.

There were fairly numerous cases, in fact, where the architect did not merely plan the temple sculptures, but seems to have designed them. Polyclitus, who



EPIDAUROS, SHRINE OR THOLOS OF AESCULAPIUS (RESTORED) BY POLYCLITUS THE YOUNGER, ARCHITECT AND  
 (From Défrasse et Lechat, Epidaure)  
 SCULPTOR (360-350 B. C.)



EPIDAUROS, ORDER OF THE THOLOS, BY POLYCLITUS.



built the most perfect of theatres at Epidaurus, and Scopas, author of the most symmetrical temple in the Peloponnesus, that of Athena Alea at Tegea, were even more famous as sculptors than as architects. Many others practiced both arts: Theodorus of Samos, Bupalos of Chios, Gitiadas of Sparta, and Callimachus, the supposed inventor of the Corinthian capital. When the versatility of the artists of the Middle Ages and the Early Renaissance is remembered, there is nothing remarkable in this many-sidedness of the Greeks.

#### CITY ARCHITECTS AND CONTRACTORS.

The next question to be answered is, how did architects, so educated and with this public position, go about to do their work? How were they engaged and paid? Under what conditions did they work?

The first important point is that there was no hard and fast line drawn between architects, contractors and builders. The term "architect," which in Greek means literally *chief artisan, head artist*, was elastic, and made to include whoever had general charge of the work of different kinds on a building, whether he drew up his own plans, or superintended the carrying out of another artist's plans. It is probable that the young architect was usually satisfied with the position of clerk of the works, under the chief architect, or of contractor and builder of some section of a structure, for it was seldom that the work was given out to a single contractor.

Of course, when there were several contractors it would be impossible to attribute the design to any of them. And as this is true in most cases it follows that the architect who designed a great building in Greece was *hardly ever* also the contractor for it. This kept the dignity of the profession higher.

Conditions varied so radically in different parts of the Greek world, and at different periods, that no general statement would apply. I can only give examples of the different methods.

The states where the architect was given the greatest freedom as well as the

heaviest responsibility were the cities of Asia Minor and elsewhere, in which, as I have already said, the care of building was placed entirely in charge of one or more city architects. What this involved and how it was sometimes regulated is shown by what Vitruvius calls an ancient law of the city of Ephesus, "that when an architect was charged with the erection of a public building he was asked to calculate the cost, and having handed in his estimate to the magistrate, his property was held as security until the work was completed. Then, if the cost tallied with the estimate, the architect was recompensed by public decrees and honors. If, however, the cost exceeded the estimates by not over 25 per cent., this amount was taken from the public funds, without imposing any penalty on the architect (neither was there any expression of public gratitude). But if the excess of expenditure should be over 25 per cent. that amount was taken from the architect's own property." "Would to God," says Vitruvius, "that we Romans had such a law!"

The sums involved in such public works were often considerable, notwithstanding the low price of labor and the fact that the materials were supplied free by the state. The cost of the Propylaea at Athens was set at 2,012 talents, or about \$2,500,000, and it was completed in five years, according to Heliodorus. The handling of this money was not left to the architect in charge, but usually to a finance committee. In the case of a building of moderate cost and plain style, like the Arsenal of the Piraeus, the cost was surprisingly small, only about \$12,000 being set aside for it each year on the city budget, over a period of less than fifteen years.

#### METHODS OF PAYMENT AND WORK.

The Greeks had three methods in the erection of buildings: (1) contract work; (2) piece work, and (3) day labor. It is not always possible to distinguish between the first and the second of these methods because contracts were often so sub-divided as to come under the category of piece-work.

In work done by day-labor, each workman received his orders and his pay directly from the state or corporation. This was the favorite early method, during the sixth and fifth centuries, for buildings that required careful and artistic execution, for in this case individual workmen could be carefully selected and made responsible for the perfection of their work.

Contract work, which was first introduced for the commoner grade of construction, such as city walls, invaded the

#### PUBLIC CONTRACTS.

We know nothing of *private* contracts and of the relations of architects to private clients, because such contracts were drawn up on destructible materials and have not survived; probably some will come to light among Egyptian papyri, which have already given several of Roman date. But all *public* contracts after having been so drafted and signed were inscribed on slabs and set up in a public place; and a number of these have been recovered, giving every detail of this



EPIDAUROS, CAPITAL OF THE THOLOS, BY POLYCLITUS.

higher spheres of architecture during the fourth century, in ever increasing proportions, but even to the end it did not entirely drive out the earlier method.

So far as we know contractors did not intervene in the building of the Parthenon, and all payments were made directly to individual artisans. It was the same at the Erechtheion except for the encaustic work, which was done by special contract. Later, in the fourth century B. C., about two-thirds of the work was by piece-work or day-labor and one-third by contract.

part of Greek public law. This permanent and public form was necessary owing to the strict accounting required of the official put in charge of such work by the people and the danger of accusation of fraud in handling the public money. The trial of Pericles for purloining some of the gold supplied for the ivory and gold statue of Athena is merely one of the indications of this need of public knowledge of all the details of such transactions. By the side of these inscribed contracts was always a second series of inscribed documents, namely the detail-

ed itemized accounts, year by year, of the finance committee, which included the above building expenses.

Building contracts in their complete form usually consisted of four sections: (1) the popular decree or *fiat* ordering the work; (2) the specifications; (3) the legal clauses that were to govern the work; (4) the text of the contract to be signed. I shall take up each of these four sections in turn and interweave the story of the various stages preceding the actual commencement of work. After that I shall describe the operation of building in its various phases.

**BUILDING DECREE AND FINANCE COMMITTEE.**—First, as to the decision to build. In democratic states, such as Athens, Phocis and Locris, this was done by direct decree of the whole people; in democratic or aristocratic states, such as Sparta, by order of the magistrates; in tyrannies by the oligarchy; in the case of the large national sanctuaries, such as Olympia and Delphi, by their governing corporations,—for example, by the Amphictyonic Council at Delphi.

We are, of course, more familiar with the method by popular decree, as here the details were made a matter of public record. When the decree was passed, appropriating the funds and ordering the work, it included a clause appointing a committee of superintendence, whose members are diversely called *epistates*, *naopoioi* or *epimeletai*. This Committee to be renewable each year and responsible directly to the people for the financing of the enterprise. An architect was also chosen by popular vote either as a member or an adjunct of this committee to be responsible to it and to the people for the technical perfection of the building.

The committee and its architect, following the instructions of the decree, now drew up the specifications, form of contract and estimate of cost. This document was submitted to the popular assembly and voted, as a supplement to the previous decree, and was then made public, both by placards on the public monuments of the city itself and of other cities and by the announcement of heralds in the market place. A date is named

for the handing in of bids, which must be made in person.

**COMPETITIVE BIDDING.**—There was no attempt made to limit the bidding to local contractors. In fact every inducement was offered that might attract the competition of foreigners; except at Athens, where only natives were allowed to compete. Foreign contractors were given special privileges: their traveling expenses were sometimes paid; they were allowed to sue the adjudicator of bids for fraudulent decisions; they were exempted from all taxes and from the right of seizure for debt.

**ASSIGNING CONTRACT.**—The bidding took place in the presence of the local magistrates and of the committee in charge; and the whole work, or each section of it that was put up separately, was awarded to the lowest bidder, taking into account not merely pecuniary, but other considerations, such as the period of time set for the completion, or offers to take a lease of the building for a term of years in lieu of cash payment.

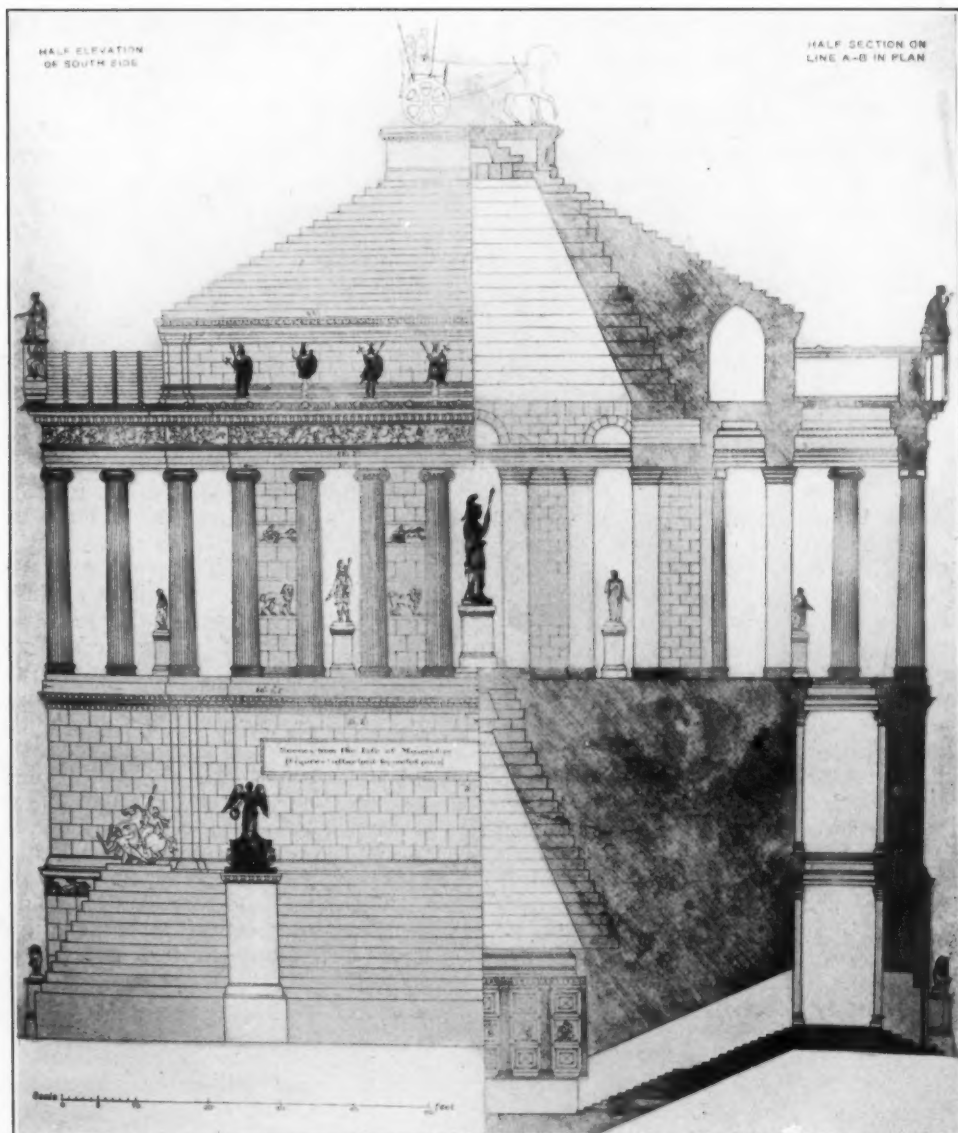
Precautions were taken to guard the interests of the state, especially against the pooling of contractors' interests or attempts at monopoly. Contractors were often not allowed to have partners, or at most a single partner. In other cases no contractor was allowed to undertake more than one job.

**WERE CONTRACTORS ARCHITECTS?**—The *status* of the contractors must now be understood. Were they usually qualified architects or not, as well as builders? There appears to have been no absolute rule. Although, as we shall see, building contracts were sometimes assumed by amateurs, either as a form of generosity to the public or as a speculation, the great majority of contractors seem to have been architects of minor repute as well as practical builders. Some should even be classified among the best architects, as was Callicrates, who contracted for the building of the entire Long Wall of Athens; as was also Ictinus's practical partner in the construction of the Parthenon.

In the later rebuilding of the Athenian walls, when as many as ten different contractors are put on the job, they

are called "architects" in the original specifications. Sometimes when two or more men are associated in a contract it is possible that, as in the present day, the

It is well known that Philon alone was responsible for the plan and received all the credit, and yet the inscription giving the contract begins: "Specifications for



business end is attended to by one, the artistic end by the other. This seems to have been the case with the famous Arsenal at the Piræus, already referred to.

the Stone Arsenal for marine stores of Euthydomos, son of Demetrius of Melite, and Philon, son of Exekestes of Eleusis." This Euthydomos was either

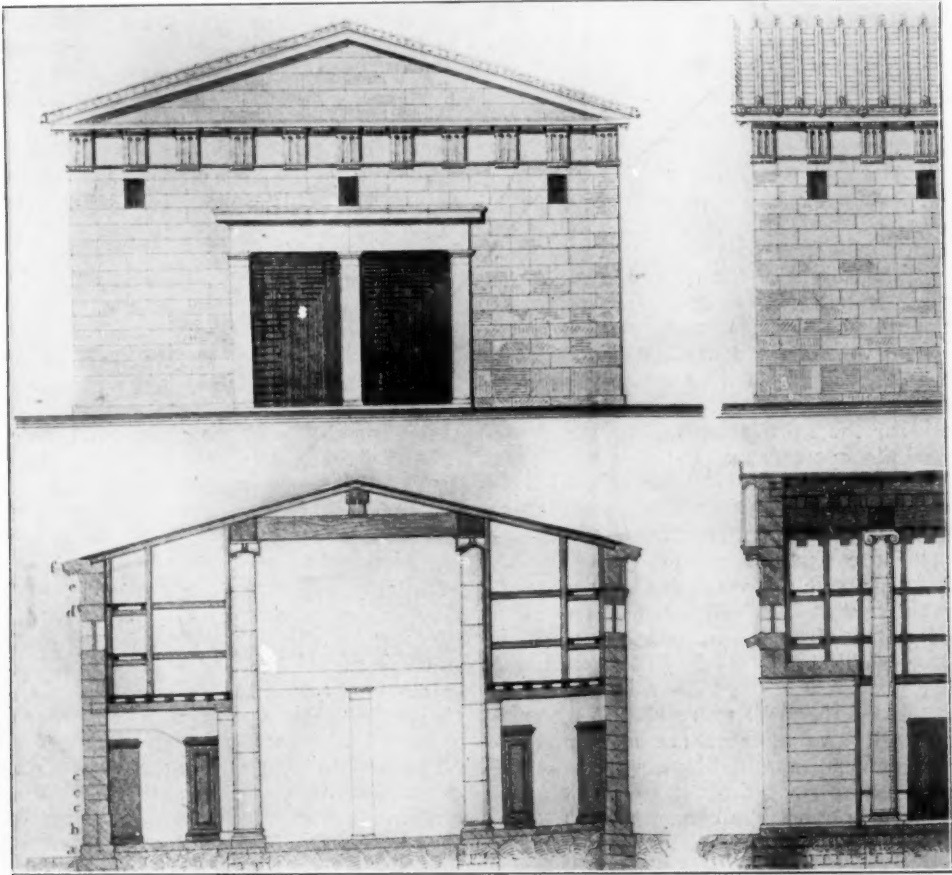


the business contractor or a moneyed associate.

**SPECIFICATIONS, THE PIRAEUS ARSENAL.**—The next point to consider is the specifications. A model of its kind is that of the Piraeus Arsenal. I shall give a translation of part of it.

"An Arsenal shall be built in Zeia for

height, the whole being dressed by the level. The foundations shall be extended so as to support the columns, to a distance of 15 ft. from the walls. There shall be 35 columns in each row, which shall be arranged so as to leave a passage for people through the centre of the Arsenal. The width of this (aisle) between the



ARSENAL OF PHILO AT THE PIRAEUS (PORT OF ATHENS).

(Restored from Philo's specifications (IV. Cent. B. C.) by Dörpfeld (Athen Mittheil. VIII.)

naval tackle, beginning near the Propylaeum, which leads from the market place. The length shall be four plethra (400 ft.). the breadth 50 ft. or 55 ft., including the walls. The ground of the site shall be cut down 3 ft. where it is highest and levelled off in the other parts. On this area the course masonry of the foundations shall be laid to an even

(two rows of) columns shall be 20 ft. The thickness of the foundation shall be 21 ft., and the stones shall be laid in headers and stretchers. The walls and columns shall be of stone of Akte (*i. e.*, Piræus limestone). A directing-course shall be laid for the walls 3 ft. broad and  $1\frac{1}{2}$  thick, each stone of which shall be 4 ft. long, except the corner stones,

which shall measure  $4\frac{3}{4}$  ft. Over the centre of this directing-course shall be laid an upright course of blocks 4 ft. long,  $2\frac{1}{2}$  ft. and one digit wide and 3 ft. high. The length of the corner blocks shall correspond with the measure of the triglyphs.

"Two doorways shall be left open, at either end of the Arsenal, each 9 ft. wide. Each shall be divided in the centre by a pier 2 ft. wide and 10 ft. deep, and the door jambs shall be carried back as far as the first columns.

"Above the upright course, (*i. e.*, the base) the walls shall be built of blocks 4 ft. long and  $2\frac{1}{2}$  ft. thick. The corner blocks shall correspond with the proportions of the triglyphs, and the height of the blocks shall be  $7\frac{1}{2}$  ft.

"The height of the walls above the upright course shall be 27 ft., including the triglyph (—frieze) under the cornice. The height of the doorways shall be  $15\frac{1}{2}$  ft. The lintels shall be of Pentelic marble, 12 ft. long, two courses in height and of the same thickness as the walls. The doorposts shall be of Pentelic or Hymettic marble, and the sills of Hymettic marble. Over the lintels there shall be a cornice projecting  $1\frac{1}{2}$  ft.

"There shall be windows all around, in every wall, opposite each intercolumniation, and at each end three. They shall be 3 ft. high and 2 ft. wide. Each window shall have a close-fitting bronze shutter.

"Upon the wall there shall be a cornice all around, and (at each end) a pediment surmounted by a pediment-cornice.

"The columns shall be set upon a stylobate on the same level as the directing course (of the walls). The thickness of this stylobate shall be  $1\frac{1}{2}$  ft., its width 3 ft., and the length of each block 4 ft. The lower diameter of each column shall be  $2\frac{3}{4}$  ft., and their height, including capitals, 30 ft. Each column shall have seven drums, 4 ft. high, except the lowest, which shall measure 5 ft. The capitals of the columns shall be of Pentelic marble. The epistyle shall be of wood, and shall be fastened upon the columns. It shall be  $2\frac{1}{2}$  ft. wide and not more than  $2\frac{1}{4}$  ft. high, and the number of

epistyle beams on either side shall be eighteen. Cross beams shall be placed upon the columns across the middle passage, of the same thickness and height. Rafters shall be set up  $1\frac{3}{4}$  ft. broad and  $1\frac{1}{4}$  ft. and two digits high. . . . Under each a kingpost 3 ft. long and  $1\frac{1}{2}$  ft. thick shall rest on the cross-beams, to which the rafters shall be braced by ties.

"Upon (the rafters) shall be placed long timbers 10 digits thick, 3 palms and 3 digits wide and  $1\frac{1}{4}$  ft. apart. Upon these shall be placed (cross-wise) covering planks a half ft. wide, 2 digits thick and 4 digits apart. Upon these (planks) shall be placed strips (to support the tiles) 1 digit thick and 6 wide, which shall be fastened with iron nails.

"This (roof frame) shall be covered with a (preservative) coat and shall then be tiled with Corinthian tiles fitted closely together.

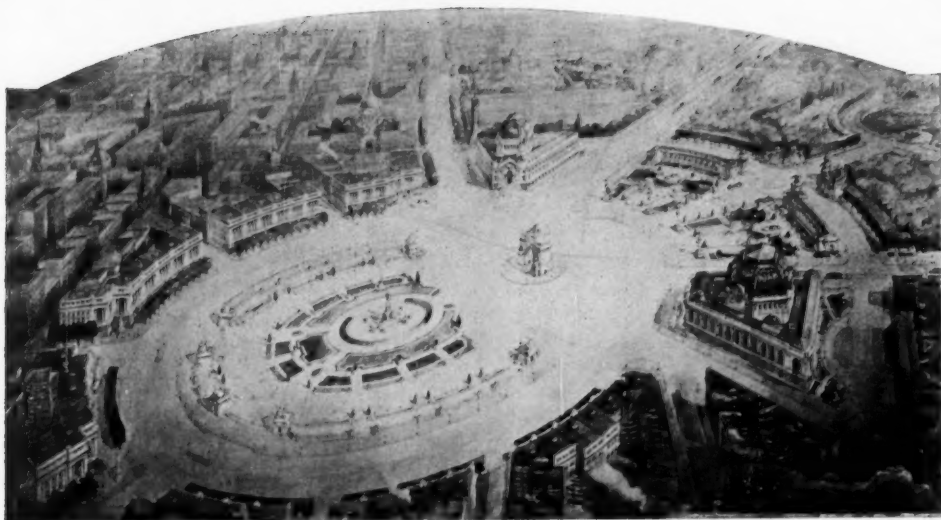
"That there may be ventilation in the Arsenal, when the courses of the walls are laid (spaces) shall be left open at the joints of the blocks wherever the architect shall direct.

"All these things shall be carried out by the contractors in accordance with the specifications, following out the measurements and the models which the architect shall provide; and they shall deliver each detail of the work within the time to which they shall have agreed in the contract."

The units of measurement here mentioned are 4 digits = 1 palm; 4 palms = 1 foot; 1 foot = 0.308 met. These specifications do not mention the decorations or details of capitals, cornices, frieze, etc., nor the number and dimensions of the triglyphs, which we know, from the inventories, to have been painted. This part of the work was probably covered by another and later specification different from the constructor's specification, and possibly this part of the work was done not by contract at all, but by day's work, as at the Erechtheion, under the architect's daily direction. As we shall see, all details, whether in relief or in color, were executed *in situ* after the construction was completed, in all Greek structures.

A. L. Frothingham.

(To be continued.)



BIRD'S EYE VIEW OF BROOKLYN PLAZA AS PROJECTED.  
Raymond F. Almirall, Architect.

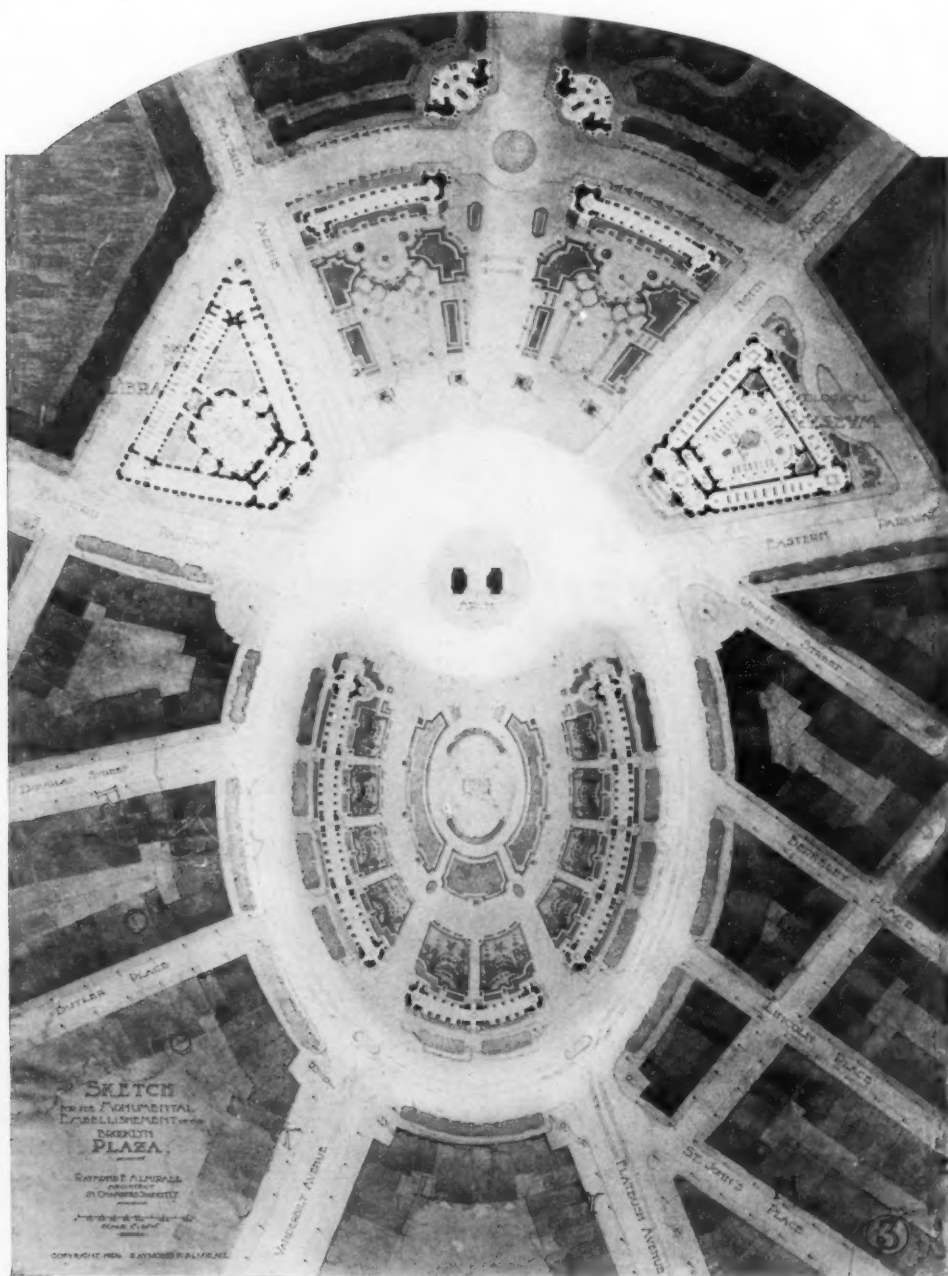
## The Brooklyn Plaza and the Projected Brooklyn Central Library

### THE PLAZA.

The dedication of the recently completed portion of the Brooklyn Institute of Arts and Sciences calls attention to a section of Greater New York which holds promise of being one of the most impressive and important points of the metropolis. It must be recalled that in the fall of 1895, under the administration of Charles A. Schieren, then Mayor of the City of Brooklyn, ground was broken for the Institute, and that on December 14 of the same year the Mayor laid its cornerstone. Now, after a lapse of more than a decade, another section of the extensive design of Messrs. McKim, Mead & White has been completed, largely through the public spirit and interest of the citizens of Brooklyn, for the city has contributed generously of its money for the realization of the project. The Brooklyn Institute occupies a prominent position on the Eastern Parkway, one of the city's finest thoroughfares, near its intersection with the Plaza marking the entrance to Prospect Park, which has recently re-

ceived some noteworthy architectural embellishments under the programme of the Park Department. The Eastern Parkway is, in fact, the most important thoroughfare in the Prospect Park region, and leads to the Plaza at opposite sides of the Memorial Arch. The recent acquisition by the city of a site for the new Central Library on the Plaza, between the Parkway and Flatbush avenue, extending back to the continuation of Underhill avenue between these thoroughfares, has suggested to Mr. Raymond F. Almirall, who was selected to submit a design for this building, the larger problem of the appropriate architectural treatment of the whole Plaza to make of it a monumental area, and to provide for placing on its perimeter buildings which will permanently assure its character.

The architect has, accordingly, provided for such a project, the drawings which we illustrate herewith. It would be interesting, for purposes of comparison, to have before one a bird's-eye view of the present condition of the Brook-



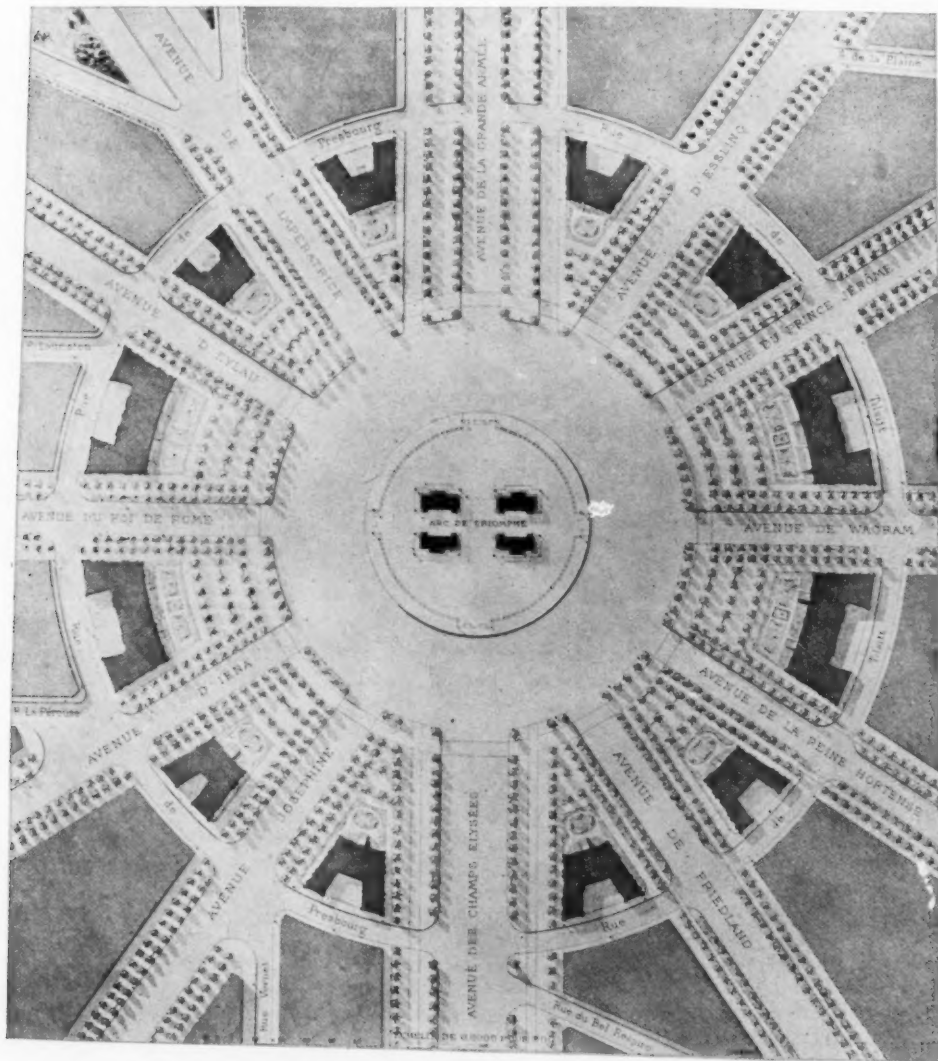
PLAN OF BROOKLYN PLAZA, SHOWING SUGGESTED IMPROVEMENTS.  
Brooklyn, New York City.

Raymond F. Almirall, Architect.



lyn Plaza; but perhaps such a view would be a discouragement as well as a help, for, while it would reveal possibilities of improvement, it would also show how this centre of exceptional

improvement than actually exist; but to the citizen who is merely a passerby, the possibilities would appear largely as lost opportunities, and would, in consequence, tend to decrease his interest in



PLAN OF THE PLACE DE L'ETOILE, PARIS.

natural beauty has been neglected and slighted, and that in its immediate vicinity may be found the most inappropriate architectural environment. To a student of civic aesthetics, the surroundings would present no greater obstacles to

the undertaking. While the chances are large for improving the Plaza from a practical, as well as from an artistic point of view, we are compelled to make our admissions by saying that certain fundamental difficulties or infelici-

ties are involved in the problem. Chief among these is the position of the arch, which presents the extraordinary spectacle of serving as the monumental entrance to Prospect Park, without being such, either in practice or in appearance. If it is contended that the arch is not artistically intended as the entrance to the Park, its position is equally awkward. Its orientation placing it almost on the axis of the Park drive presupposes that it leads from something before the Park. Such would seem the logical reason for choosing for a warrior's monument the arch as more suited

the arch is the whole thing, proclaiming its colossal proportions in contrast to the low extensive mansions disposed around the circumference of its circle. In the Brooklyn Plaza the arch will be of secondary importance, being exceeded in scale by the projected library mentioned above, and by its suggested counterpart—the Zoological Museum. Besides the buildings which would, in the event of improvement, be erected on the remainder of the curve would more than likely further detract, by their size, from the arch's importance. Thus in time its discordant effect would become



NEARER PERSPECTIVE VIEW FROM THE FLATBUSH AVENUE SIDE, SHOWING THE EFFECT OF THE BUILDING WHEN THE DOME IS INVISIBLE.

to express its purpose than a column or an obelisk. But no street or avenue extends through the arch; on the contrary, the vista is closed at present, and must remain so in any modifications of topography that could readily be made. Clearly, the arch is an impediment to the harmonious architectural treatment of the Plaza. It must be accepted and made the most of by decreasing its importance. It must be acknowledged, therefore, that the Plaza possesses no artistic centre, and can never hope to be as effective, for instance, as the Place de l'Etoile in Paris, which has such a centre and of which we reproduce a drawing. There is, however, another fundamental difference between these two plazas. In the Paris *place*

less and less as its relative importance decreases.

Another fundamental difficulty with the Brooklyn Plaza, both in its present state and as Mr. Almirall remodels it, is the lack of very ample means of carrying for the large traffic that must ultimately centre at this point. The road which winds around the curve of the Plaza is very little wider (except in front of the arch) than some of the avenues which run into it. Most of the area of the Plaza is given up to pedestrian ways and architectural embellishments in connection with the central feature—the electric fountain. No doubt this arrangement provides a very attractive feature for the public, but in view of the proximity of Prospect Park



DISTANT VIEW FROM THE PLAZA, BROOKLYN CENTRAL LIBRARY.

Raymond F. Almirall, Architect.

Brooklyn, New York City.



VIEW OF THE GREAT ENTRANCE VESTIBULE ON THE FIRST FLOOR, LOOKING  
TOWARDS THE GRAND STAIRCASE. BROOKLYN CENTRAL LIBRARY.  
Brooklyn, New York City.

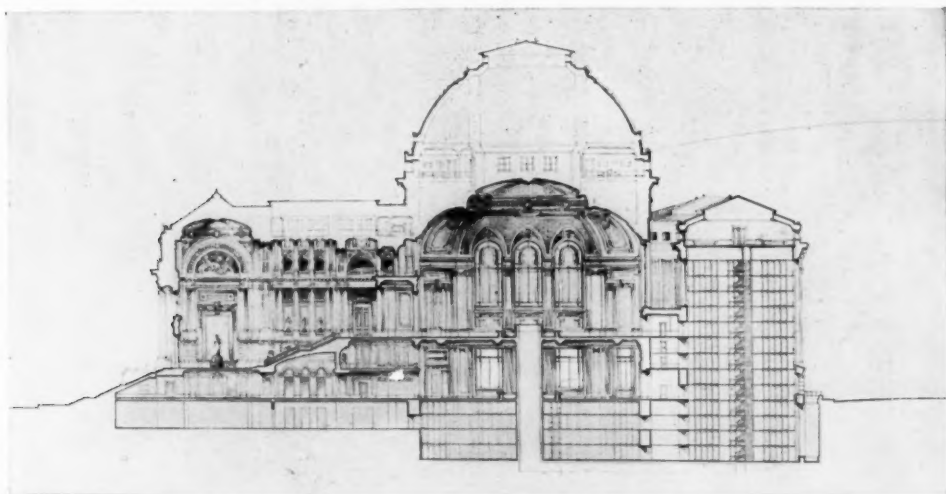
Raymond F. Almirall, Architect.



it would seem unwise if it interferes at all with the proper handling of the traffic, to provide for which should be a leading consideration. The reader should note how the traffic problem has been solved in the Place de l'Etoile, referred to above. The roadway of the *place* has been made considerably wider than any of the avenues which intersect it, and the area in the centre has been reduced until it is only just large enough to be a sufficient aesthetic base for the arch itself. The remainder of the area has been disposed around the outside of the roadway, so that great

account it would seem a questionable act to close to vehicular traffic the direct entrance between the arch and the Park, as shown in Mr. Almirall's plan. Carriages from and to the Park would have either to make their way in a round-about manner or they would be compelled to cross the car lines at points where congestion would ultimately be bound to occur. Pedestrians to and from the park would likewise be compelled to cross carriage and car traffic at its busiest point, or else take a more indirect course.

The objections which we raise above



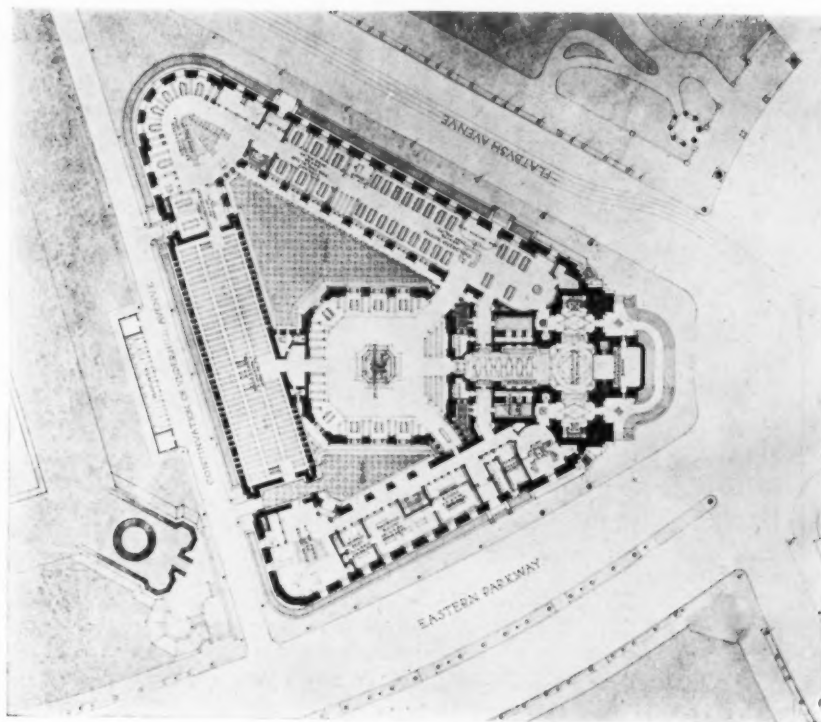
LONGITUDINAL SECTION. BROOKLYN CENTRAL LIBRARY.

Brooklyn, New York City.

Raymond F. Almirall, Architect.

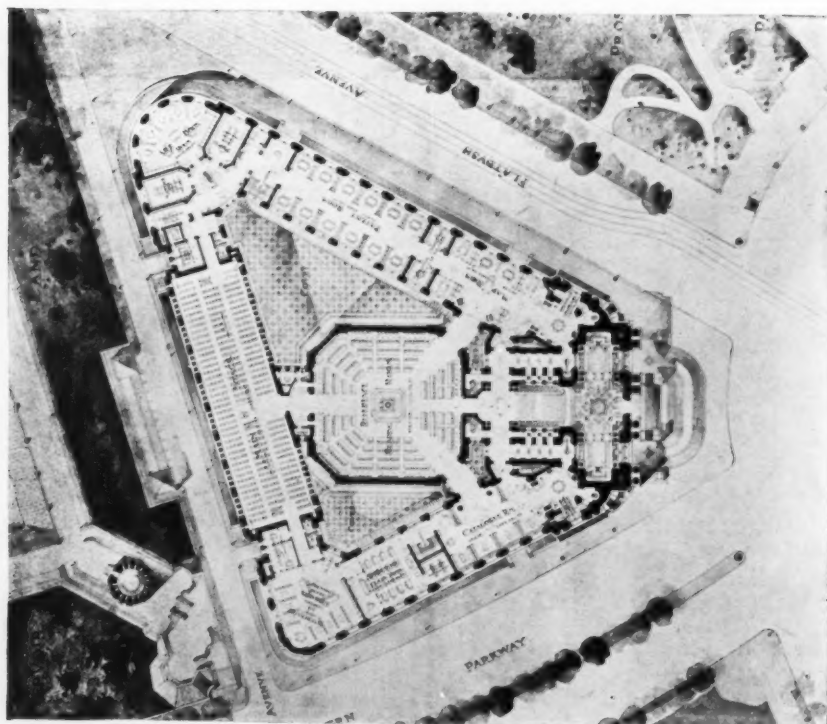
crowds may comfortably circulate around and obtain an excellent view of the arch and everything that is going on in the circle. This arrangement of the promenade on the outside of the road, instead of on the inside, has the added merit of providing for the buildings around the circle a magnificent setting. It must be admitted, however, that as there are no car lines running around the Place de l'Etoile its traffic problem is simpler of solution than that in Brooklyn, especially in providing reasonably distinct lines of communication for pedestrians, cars and vehicles. In the Brooklyn Plaza these lines of communication often cross, and on that

would perhaps have little or no *immediate* force were the scheme carried out as it stands; but it is for the future that such improvements must provide, and failing in amply providing for the conditions when the region in the Prospect Park section shall be thickly populated, the suggested embellishment of the Plaza is not a satisfactory solution of the problem. The possibilities exist for making of this point a civic centre worthy of a great city of the future, but these possibilities have not been realized in the scheme before us, which, although it is undoubtedly monumental in character, does not fully satisfy the requirements of future use.

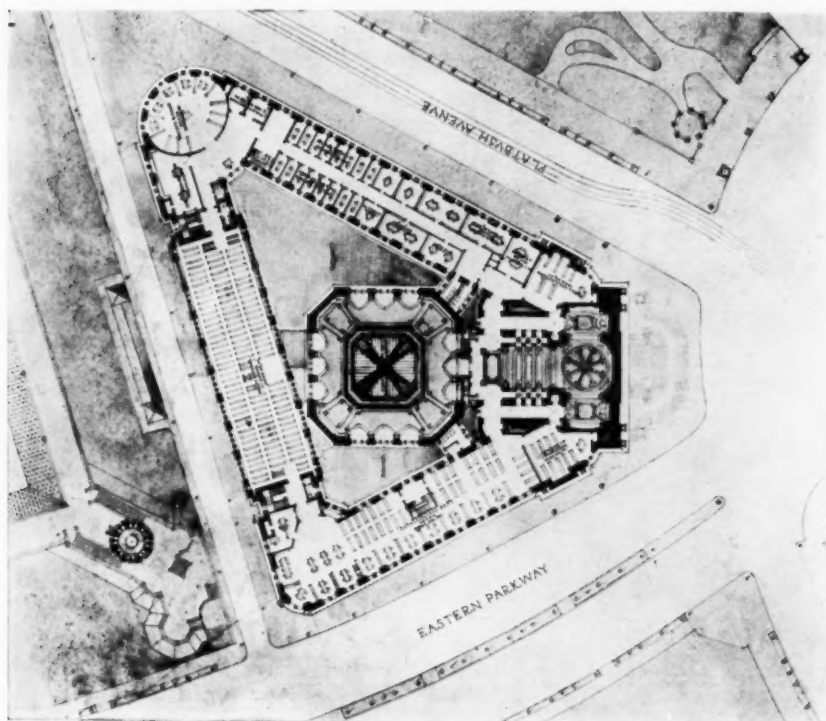


Main or Second Floor Plan.  
Raymond F. Almirall, Architect.

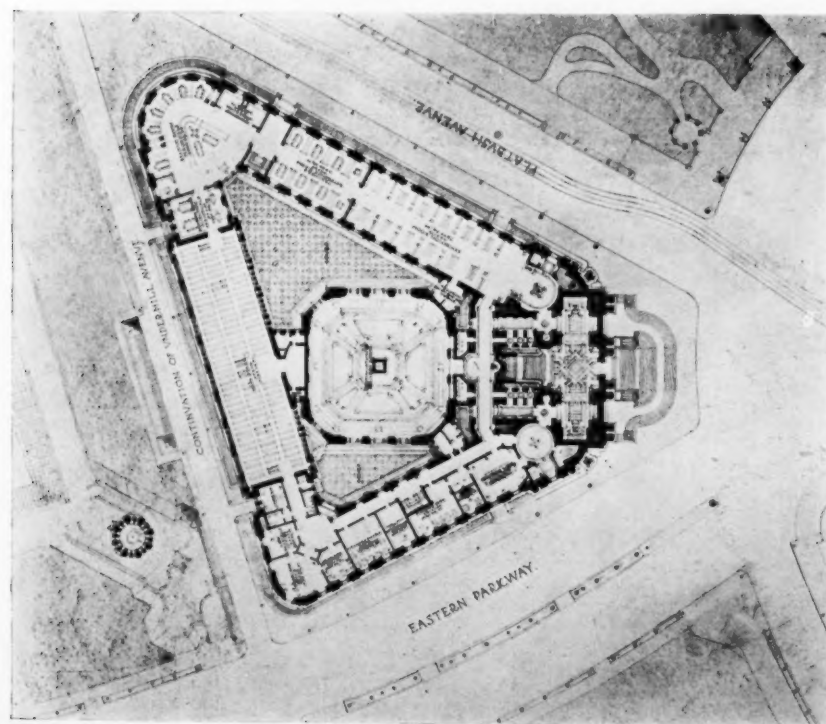
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Ground Floor Plan.  
Brooklyn, New York City.

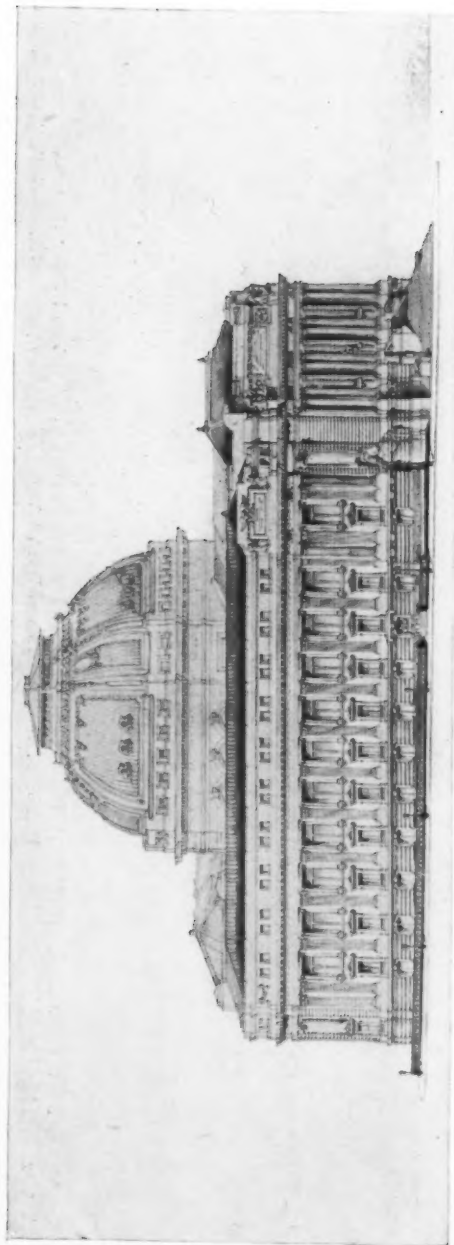


Third Floor Plan.  
Raymond F. Almiral, Architect.

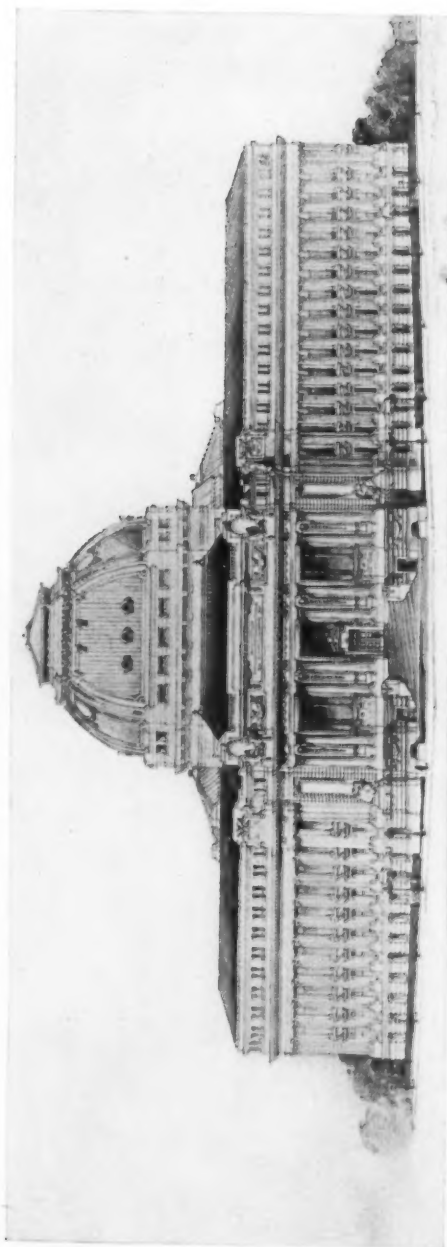


First Floor Plan.  
Brooklyn, New York City.

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EASTERN PARKWAY ELEVATION.

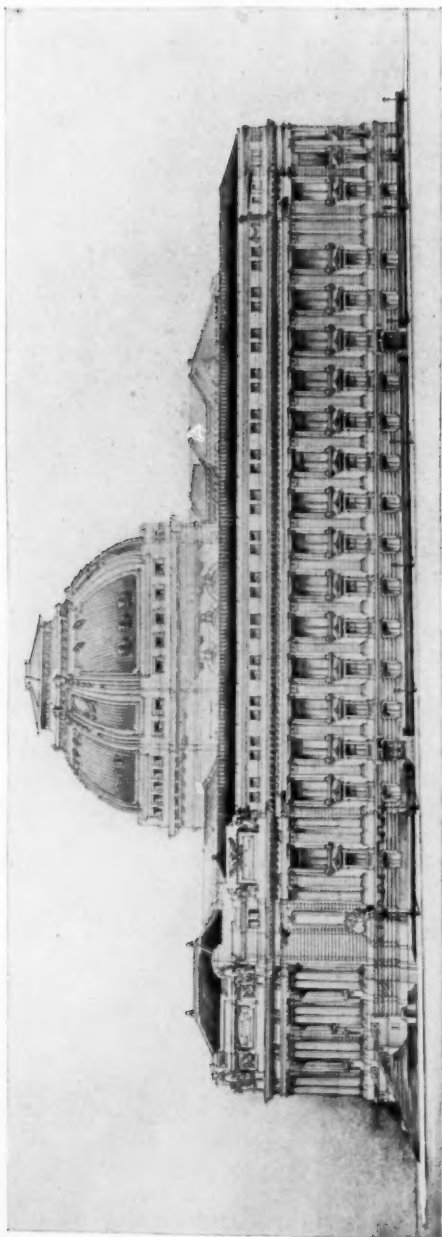


PLAZA ELEVATION. BROOKLYN CENTRAL LIBRARY

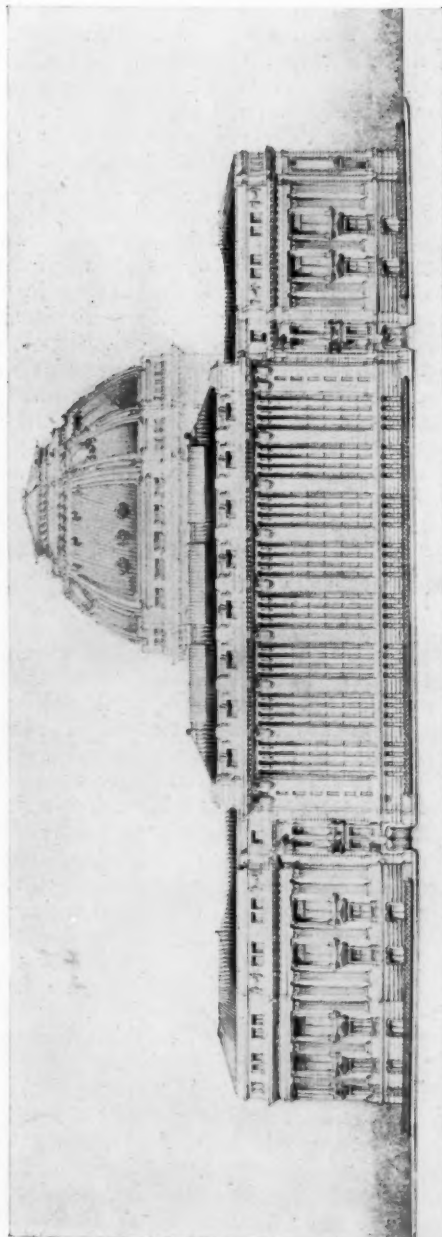
Brooklyn, New York City.

Raymond F. Almirall, Architect.





FLATBUSH AVENUE ELEVATION.



UNDERHILL AVENUE ELEVATION. BROOKLYN CENTRAL LIBRARY.

Brooklyn, New York City.

Raymond F. Almirall, Architect.

## THE BROOKLYN CENTRAL LIBRARY.

If the design which has been prepared for the trustees of the Brooklyn Public Library by the same architect is accepted, that borough will soon possess a main library of which any city might well be proud. Whatever shortcomings the Plaza plan itself may contain have been more than counterbalanced in the design for the new Central Library. Its position at the head of the openest part of the Plaza is a commanding and unrivaled one, and the manner in which the architect has adapted his plan on the irregular quadrilateral site to the large requirements of the building is worthy of the most serious study and the highest appreciation. The accommodations provide for a most complete library, to house about two millions and a half of books. The entire building covers approximately 100,000 square feet, of which about 13,000 are occupied by two large open courts and four small ones, leaving a ground-floor area of between 75,000 and 80,000 square feet. The total floor area provided, not including the main and storage stacks, is about 270,000 square feet, or about six acres. This allowance of area, it is estimated, makes generous provision for specific requirements, without any attempt at mere size, the plan being so disposed as to admit readily of extension if at some future time the needs of the institution should outgrow its present ample accommodations. Such extension could be effected at the rear by bridging over Underhill avenue, as the architect points out, and utilizing a part of the site which is at present occupied by the reservoir that must inevitably give way in the event of other provision for the borough's water supply, which has recently been under discussion.

The plan may be said to recognize, in the functional requirements of the library, three distinct departments of activity which are separately connected with a central body containing two large halls of some 11,000 square feet each, covered by an externally prominent domical roof. These three separate departments of activity occupy the three wings which run parallel to the three

long sides of the quadrilateral. The one on the Eastern Parkway contains the accommodations required by the administration of the institution; that on Flatbush avenue provides for the various public reading and study rooms; and the third wing on the rear contains the book stacks. All these departments are not only directly accessible from the two large central halls—the reference and delivery rooms—but they are easily reached from the main entrance on the Plaza. Attention must be called to the remarkable way in which the shape of the site lends itself to the distribution of these parts, providing precisely the relative amount of area which they require. Thus the greater length of the Flatbush avenue wing marks it for the main public departments, while the shorter one on the Parkway amply takes care of the accommodations demanded by the working departments of the library. Similarly, the Plaza side, being the shortest of all, is plainly marked for the main entrance, while the great stack room is appropriately placed in the rear, away from the public vestibule, but directly connected with the main distribution rooms on the basement and second floors in the centre, the administration wing on one side and the reading and study rooms on the other.

While these general excellences of plan disposition may be pointed out, it will also be admitted that there are some, perhaps minor, matters of design which it is not possible so unqualifiedly to commend. For instance, there seems no very good reason why the great stack room should be lighted by a series of openings which are hardly more than slits in the wall. These openings the architect has alternated, presumably for appearance, at every fourth window by a pier the width of two book stacks and a passage. The resulting external treatment is very effective, it is true. But would it not be preferable to have the book stacks better lighted, even if large windows would not seem to the designer so 'emblematic of the arrangement and function of the room behind them?' Under the present circumstances, it would be necessary to depend very largely on

artificial lighting for ready access to the books not very near the windows.

The *parti* of the plan cannot be called otherwise than simple and obvious, but it is this simplicity and obviousness in architecture which is one of the surest signs of serious and successful study. Like the masterpiece of a great artist, a simple architectural solution looks so incredibly easy of accomplishment that it would be impossible to convince a layman to the contrary without explaining to him the mental processes that had to be performed to attain the final and self-evident simplicity which is no more characteristic of a great piece of architecture than of an equally renowned painting or sculpture, marking them alike as exceptional artistic performances.

To those who are not architects, it may seem unnecessary and wrong to pay much attention to a mere plan. It will perhaps seem to them that as the building under discussion is very much in the nature of a public monument, the paramount consideration should be of "architecture," monumental effect and the like. As a matter of fact, the discussion is of architecture and monumentality, but all good architecture is referable to the plan from which any real merit must ultimately come. In the designs for a monumental building of the magnitude of that before us, the matters which it is most important to consider lie in the plan, and if this meets the requirements of use in an economical, efficient and effective manner, the character of the external or internal garb may, as a rule, be suitably modified, if necessary, to meet conditions of environment and cost. Proceeding, however, from what is unfortunately the popular notion of architecture, mere grandiose appearance, it is impossible to arrive at a good solution of the problem and produce something which could be worthy of the name architecture. In short, the conception of a building is inseparable from its plan, in which it must express itself first and last, and that being good there is every reason to believe that its façades and interior

embellishment can be made equally as good as its plan disposition.

We must expect the importance of the plan in architecture will continue for some time to be very much underestimated by the outsider. Until the architect is allowed a fairer share of recognition as the responsible creator of what should of right be the most popular of arts, the average citizen will regard his performances as more or less superfluous and extravagant, basing his opinion always on secondary and unimportant features of the architect's work, which have long been held up to him as the essence of architectural art.

To return to the immediate subject in hand, the foregoing must not be interpreted as an apology for the form which has been given to the exterior and interior of the Brooklyn Central Library design. The intention is to lay emphasis on the fact that in viewing the drawings which we publish it is of far greater importance for the reader to remark in the plan the clever sequence of the main reading rooms, which has enabled the architect to dispense with the customary corridors, which would greatly reduce light and area, than to regard with approval or disapproval the decorative treatment of the entrance vestibule, with its grand staircase or the colonnade of the main façade, which are merely the embodiment of the emotional elements of the problem. These features are not the essential phases of the design, and are not in any sense to be regarded as fixed and definite, as are the conditions of planning which suggest them. They are subject to further study and elaboration or simplification without producing upon the basis of the building any radical modification. It is not the aim of the architect, in making a design, to state these matters of detail accurately, and as he necessarily intends them to appear in the finished structure. The study that would be required to depict faithfully the appearance of the building in its final adjustment of columns, pilasters, mouldings and carving would not only involve an enormous amount of labor, but would be equally undesirable,

as the slightest change in the disposition of the plan might make it necessary to repeat from the beginning all this labor, whereas the necessary parings and adjustments in plan which are involved in the subsequent closer and detailed study of features and details are in the nature of development and cause no great upheaval in the underlying structure of the design.

The general external treatment of the design which has been provided for the Brooklyn Central Library is pleasing and simple. The problem of the silhouette has been well handled. Obviously, the point from which most spectators will see the new library will be from the Plaza and on the Flatbush avenue side of the same. The problem to be solved, then, was to produce a sky line which should be equally effective with or without the large central mass. Great prominence has accordingly been given to the upper part of the great entrance vestibule, which, upon nearer view, forms an effective termination against the sky. The large domical roof performs a similar office when the building is viewed from a more distant point in the Plaza. It is, of course, difficult to avoid the impression that the great dome has been deposited, as it were, in the courtyard between the wings, but, in the present case, this feature's importance, architecturally, has been sufficiently reduced to minimize such an impression.

On the Flatbush avenue and Parkway elevations there seems to be no reason in the plan for treating the ends towards the Plaza with a prominent projection, and denying such terminations at the ends of these façades. Next to the great entrance feature on the Plaza, the most pleasing façade treatment is to be noticed on the rear or Underhill avenue façade. The clever manner in which the wings have been joined to

each other at their unequal angles is to be remarked in that view. Another noticeable feature, and one which adds considerably to the building's monumental character, is the long, unbroken cornice lines of the wings. The rusticated base, too, helps in producing the general effect of strength and propriety which the design possesses.

The drawings which Mr. Almirall has prepared are as elaborate and well presented as any of which we have a recollection. The programme from which the architect worked is the labor of Mr. Frank P. Hill, the Chief Librarian of the Brooklyn Public Library, and is one of the most complete and exhaustive documents of the kind, embodying not only Mr. Hill's experience of library operation, but that of many leading librarians elsewhere, who were consulted as to the actual working of their buildings. To this combined experience is also to be added the co-operation of the architect and of Professor Hamlin, of Columbia University, whom the trustees of the Brooklyn Public Library employed as consulting architect to give expert advice on the design provided.

The problem confronting the architect was therefore subject to three conditions: the programme, the site provided by the city, and the environment of this site. Of these conditions, which were not without their difficulties, the designer has, by virtue of the solution which he presents, acquitted himself with honor. He has achieved a design which the trustees of the Brooklyn Public Library have done well to accept, subject, of course, to further study and elaboration. And the citizens not only of the borough, but of the greater city, should now lend their influence to an end that will give them at the same time a splendid educational centre and a worthy public monument.

H. W. Frohne.



## An American Architecture



The lot of the writer of architectural criticisms must necessarily be a hard one, so long as the principles governing the designing of buildings are so differently understood and interpreted by those making the designs.

To demand a literal adherence to truthful expression of function from one who has attempted to faithfully reproduce a building or type of building of a by-gone age, which in its original state was erected to house some utterly different function, is manifestly to demand the

impossible and condemn the whole thing from the first; and while it is obviously true that no building can be really great, architecturally, unless it does truthfully express its function, still the process of the evolution of styles is so gradual, and so much excellent effort is expended in this very effort to weld the old and the new, often with results ingenious and charming, that to condemn utterly because an illusion is created instead of a fact declared, would be not only unjust but would practically do away with the occupation of the writer of criticisms. For it is true that a vast majority, indeed, all but a small minority of our architects are actively engaged in this very exercise, the creation of architectural illusions; illusions of foreign lands and climates almost, indeed, to be classed as "scene painting" in solid materials.

Within a single city block in almost any city in the country it is not unusual to find examples of the architecture of England, France, Italy, Germany and of various periods of each. The Greek or Roman temple serves indiscriminately as the model for a church, a library, a

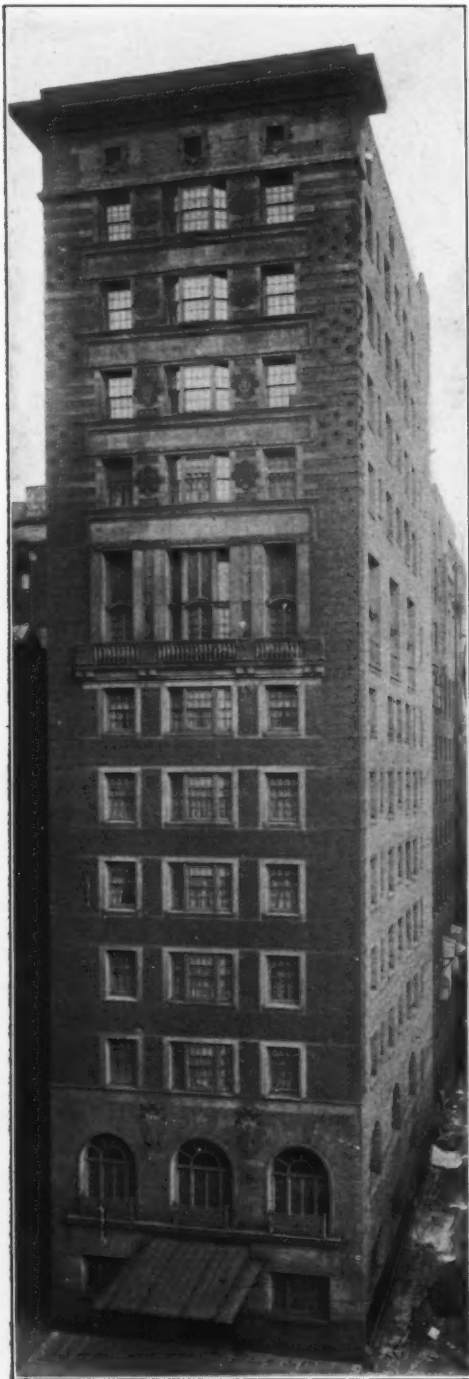
school or perhaps a power-house. The ancient emblems used in decoration, which had a definite and literal meaning in their own day, serve still to dress our buildings, and we still express our naval prowess in monuments ornamented with the prows of Roman galleys, just as forty years ago our sculptors dressed the Yankee bust of Abraham Lincoln in a toga to show that he was a statesman.

It is instructive to look back on the progress in sculpture in the last forty years as shown in the case of Lincoln and the toga, and to realize that our architecture is still largely in the "toga" stage.

So long as our architects continue to declare themselves exponents of definite foreign styles or methods—French, Italian, English, German, ancient or modern—and persist in an effort to graft these styles onto building conditions which are, and in the nature of things must be essentially modern and American, just so long our architecture will be neither definitely foreign nor definitely American; and the critic must content himself with admitting first of all the theory of evolution of styles, and next the premise of the designer that his particular style is right. After these admissions he may hold the designer to his own premise and judge him accordingly. But so long as logic is ignored or discarded in the first instance it cannot be well demanded if the business of writing architectural critiques is to continue, and perhaps it is not too much to hope that just as our sculptors have found in methods of directness and truth a notable modern expression for their art, so the art of architecture, with no thought for style may find in the simple expression of the great changes in modern life, modern building materials and methods of construction, a vital expression.

There would seem to be a better way.

The theory of the evolution of styles, as generally stated, is that our style is



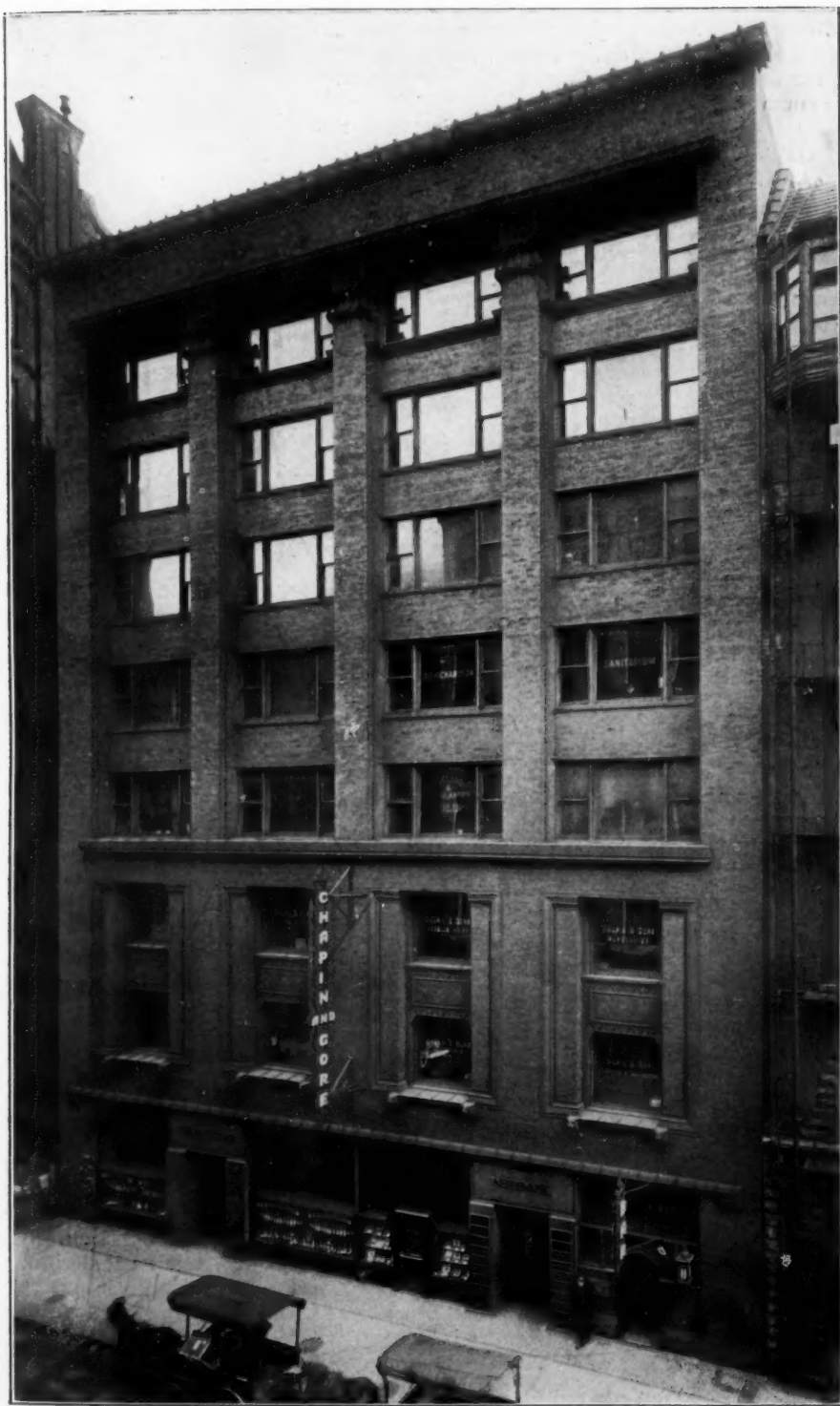
ADDITION TO CHICAGO ATHLETIC CLUB,  
CHICAGO, ILL.

Richard E. Schmidt, Garden & Martin, Archts.

copied from another preceding it, and is so modified by differing conditions of climate, custom and function that it eventually achieves an individuality of its own that is recognized as a style. This is all very well, but is it not true that the copying is unconscious? Is it not true that the designer simply used the forms and methods that he knew and devoted his best attention to the solving of his local functional problems, thereby creating new forms and methods? Certainly we know that the forms of architecture always have followed the functions, that the changes have been as great in form as they have in custom or method.

We know that the discovery or invention of the principle of the arch completely altered the form and style of buildings. We know that the changes in style occurred sometimes swiftly, sometimes infinitesimally through ages exactly keeping pace with the changes in the people, their customs and the climate in which they live. It is not reasonable, then, to suppose that these changes in architectural form were simply due to an unconscious evolution in the minds of the builders striving to house their needs? Did they not simply use the forms they knew and create new ones as new needs arose? The Gothic builders followed the Romans, but they did not, even in Italy, follow the Roman forms, and probably they did not consciously abandon them. There had been a great change in mind and custom, and it was faithfully expressed in form and method of construction.

We are today undergoing great and rapid changes in mind and custom, and while our methods of construction have kept pace, the architectural forms have not. To-day the old system of piling stone upon stone, with inert weight as the bonding fibre in the tissue of the building, is largely superseded by the use of steel ties, beams and struts. Buildings no longer stand on the ground by sheer weight, but are rooted and tied deep in the ground as is a tree and they have assumed the same fibrous quality in construction, if not in form. In form they are still the same. Elaborately our



Chicago, Ill.

THE CHAPIN & GORE BUILDING. Richard E. Schmidt, Architect.

architects strive to make the old, meagre handful of shapes and devices cover and hide the new big structural methods, but these new methods cannot be hidden, because they represent changes in our civilization. And the twenty-story skyscraper, standing on its puny stone-

when the process of evolution is an unconscious one. Would it not be better to accept the new facts and methods as glorious opportunities and let them assert themselves in new and glorious forms? Piers, lintels, arches, tie-rods, walls, roofs, windows, materials, tex-



THE CHAPIN & GORE BUILDING.  
Chicago, Ill.

DETAIL OF LOWER STORIES.

Richard E. Schmidt, Architect.

column legs, advertises the sham of its system of design, because the winds would so obviously topple it over if it were not fibrous, and its stone columns would so obviously burst and crush to pieces if they were really stone, as they pretend.

The trouble with our architecture is, we are trying to evolve it consciously,

tures and colors are not peculiarities of any style or styles, but are common to all styles, those of the past and those of the future. Balance, proportion, rhythm, poise, are elements of all design, and we have the record of the history of art to teach us what they mean. Every new problem in building teems with suggestions for its solution, and when



our designers approach the new problems boldly and serenely, with a full knowledge of how the designers of the past achieved their great successes and with courage to try and do likewise we may begin to look forward to a day when our successes may also be great.

In the illustrations here published of some of the works of Richard E. Schmidt, and of the firm of Richard E. Schmidt, Garden & Martin, there is evi-

The new building for Montgomery Ward & Co., which is rapidly approaching completion on the Chicago lake front, is a good example of the demands made upon the resourcefulness of the modern architect. It is essentially a new type. In the first place, it is huge, having a ground area of 147,000 square feet and a total floor area of 1,323,000 square feet. It has a length of 731 feet and a greatest depth of 275 feet,



THE BROOKS CASINO

Chicago, Ill.

Richard E. Schmidt, Garden & Martin, Architects.

dence of a definite attempt at something of this sort, an attempt to express the function of the different buildings and more particularly there is a sincerity in the use of materials in expressing the structural facts that is a step toward the fulfilment of the hope just expressed. While they are not buildings of the first importance, they are fairly representative of the variety of work that comes to the average architect's office.

reduced by the irregularity of the lot to 153 feet on Chicago avenue. Its vast extent and its immense bulk towering as well as spreading are unrelieved by courts, either external or internal. In fact, it is a huge aggregation of storage lofts, nine stories high, a repetition of units of a monotony truly appalling. Next, it is entirely of reinforced concrete construction—foundations, columns, floors and walls all of concrete,

even to the exterior. And finally, it is a strictly commercial proposition. Built to house a great commercial establishment with the strictest economy, it is not intended to be an architectural monument. It will be noticed that these

by functional, structural and economical needs, and it only remained for the designer of this structure to give to the form and materials so dictated such architectural expression as he could.

Obviously, the thing to be expressed

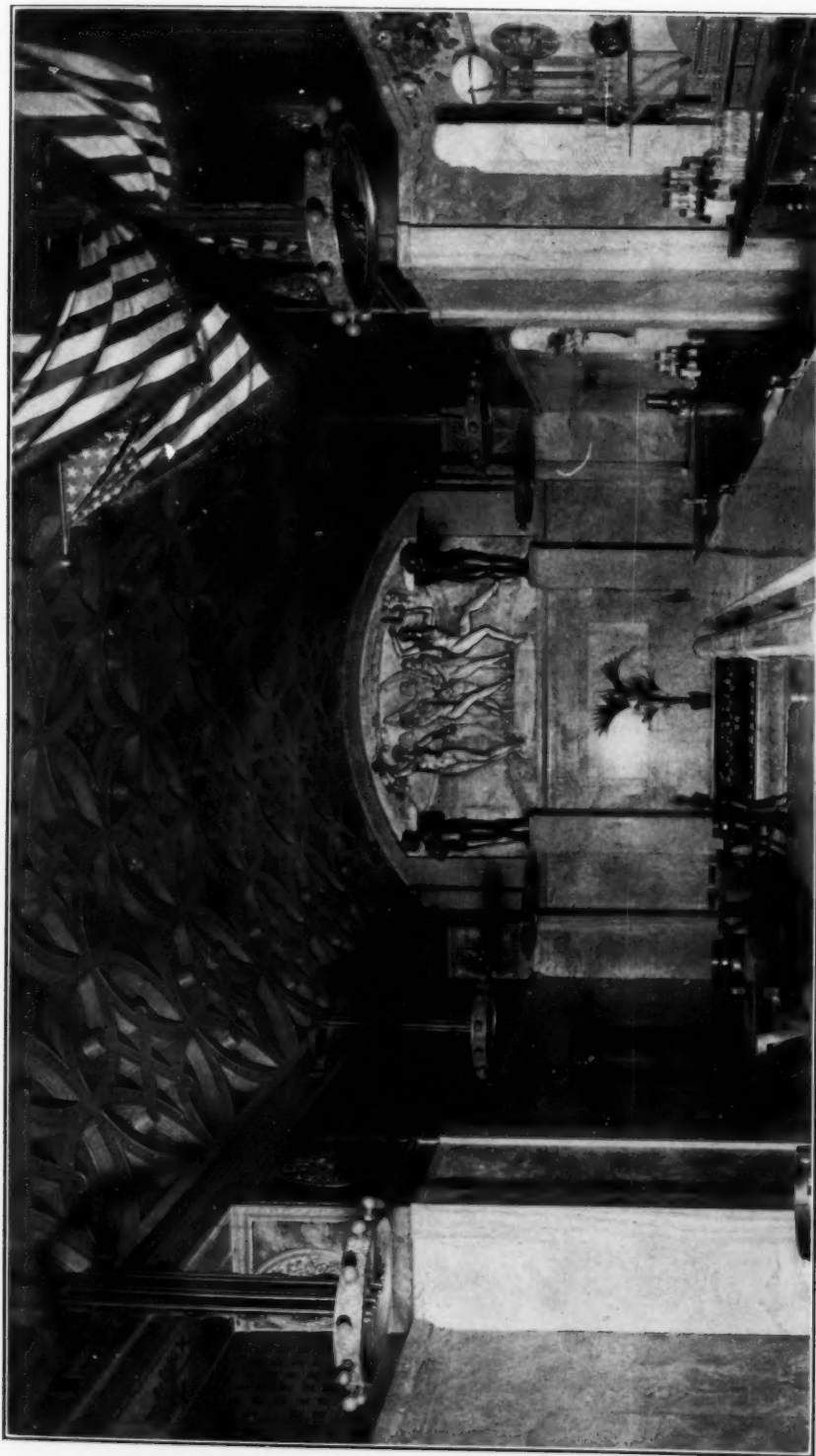


Chicago, Ill.

FIGURES IN MAJESTIC BAR.

qualifications are functional, structural and economical, uninfluenced by any consideration for architectural display or effect. Indeed, beyond a natural desire for an effect of stability and order, one might say that in this building architectural expression was not wanted. The materials and dimensions are dictated

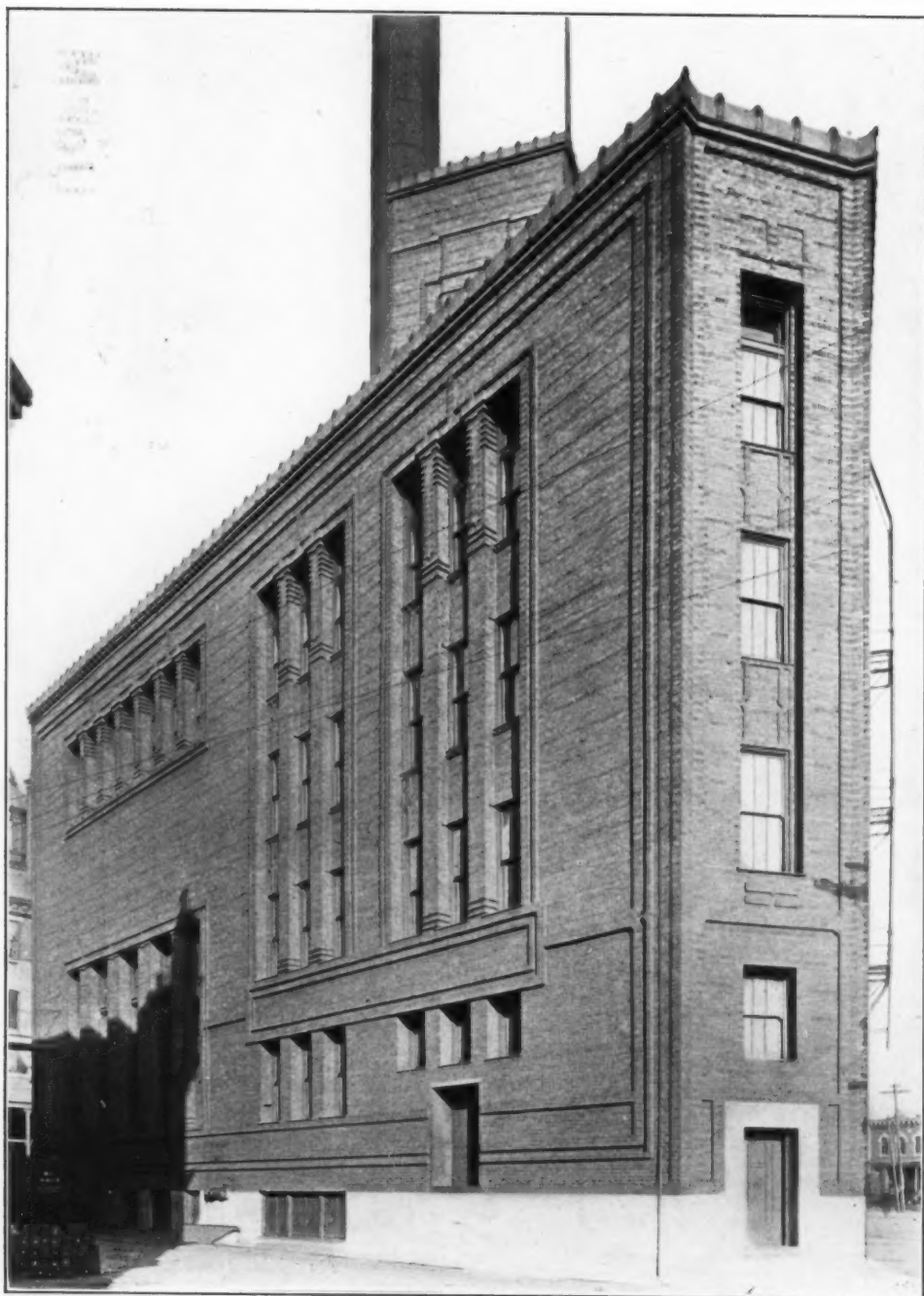
first was the commercial entity of a huge enterprise, in itself giving to the structure the stamp of a new and modern type of building. Next, the fact of a new and modern system of construction—a plastic construction, moulded together in a practically liquid state into a great homogeneous whole; not piled together



THE MAJESTIC BAR.

Richard E. Schmidt, Garden & Martin, Architects.

Chicago, Ill.



THE SCHOENHOFEN BREWERY.  
18th and Canalport Streets. Chicago, Ill.

Richard E. Schmidt, Architect.



piece upon piece in the masonry way, but molded together and interlaced with the fibres of steel which give to this material, concrete, the tensile quality which makes possible a new and modern

compared to the systems of construction of ages past. It is apparent that in a new type of building and with new materials, such as we have described, no adaptation of the old forms of architec-



APARTMENT HOUSE,

Chicago, Ill.

Richard E. Schmidt, Garden & Martin, Architects.

system of construction, as new and as modern as the steel skeleton was in the day of its first invention.

We speak of the newness of reinforced concrete construction not as a thing new in this building, but as new in our day

ture can have any meaning if we care anything for truth in the expression of function and structure.

On walls of such vast expanse cornices are futile; friezes, architraves and balustrades are ridiculous. The great

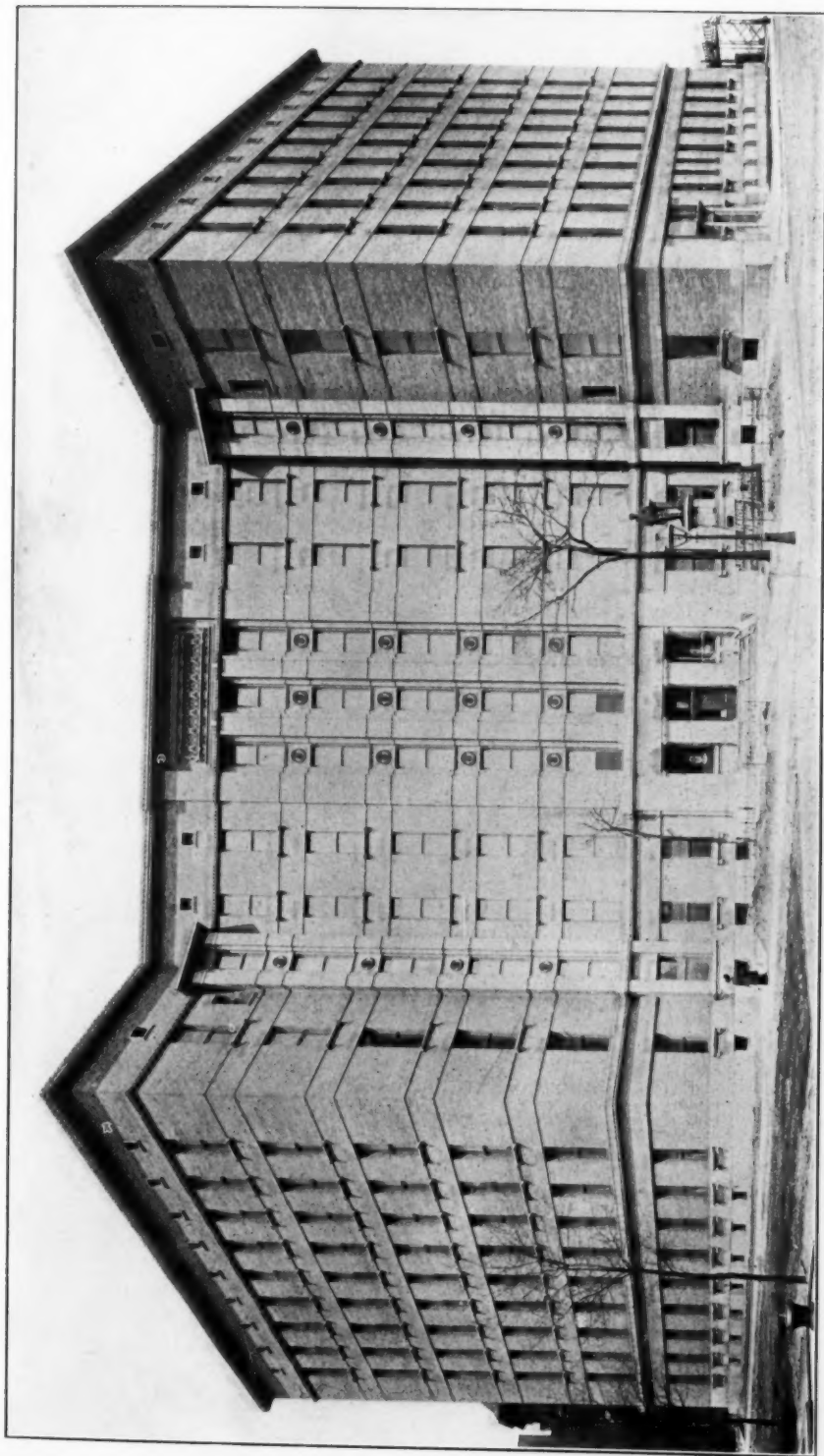
divisions of the building are the horizontal ones, the floors. Vertical divisions do not exist except as fire walls, which are made light and in a sense temporary, so that their location may be changed at will. Lines of structural columns and piers go through from wall to wall and from floor to floor with inevitable regularity. The windows are as large as may be and of a height which makes them practically twice as wide as they are high. These are all structural and functional demands. In the design the floor divisions are most strongly marked; the sills and lintels, the only projections on the wall, project only enough to shed water. There is no cornice; a small flush coping, placed in the unbroken wall surface above the topmost windows, fulfils in this building the demand for unification of parts which a cornice ordinarily supplies. The horizontal story division is accentuated by the filling in with brick of the spaces between the sills and lintels of the windows. These brick bands are of a dark reddish brown color, and with the small terra-cotta bands and panels of the same color inlaid in the piers form the only contrast with the gray cement surface of the exterior walls.

These bands and panels take the place of the usual mouldings and string courses which, in a building of more varied form, would fulfil the purpose of unifying the parts and giving to the whole, besides its sheer dimension and endless repetition, the quality of bigness, which architecturally represents the commercial greatness of the institution. In the first and second stories there is a change of function. These floors are given up to the executive and working departments of the business, and are distinguished from the storage floors above by a greater height and by being grouped together with piers running through both stories. Broadly, this is the meaning of the design. It states the facts with perfect candor; of repetition and order it makes rhythm; from monotony it draws repose, and always in its forms it is plastic. It is not the lintel which spans the opening—it is the wall; the lintel is but a

drip moulding on the lower edge of a unit wall which in itself spans from pier to pier.

The design of this building will represent more nearly, perhaps than any of the others shown the methods of design discussed above. If it is not in itself beautiful or graceful, it is at least logical, and tells a plain, unvarnished tale. The plain, unvarnished ugliness of the problem is set forth with a candor and adroitness which almost, if not quite, saves the solution from damnation, and gives hope, at least, that the system of design under fairer, happier conditions will produce something fairer, happier and not less truthful. The other buildings illustrated herewith show, in a greater or less degree the same qualities as the building described. The Chicago Athletic Club building, in Madison street, is chiefly noticeable for the precision with which the club spirit is expressed in the design, something more private than a hotel, and none the less residential. It is also remarkable, structurally, in that, although 48 feet in width, it has no interior columns, each floor spanning from wall to wall. This would not be interesting except for the height of the building and the consequent problems of wind bracing. The building forms an addition to the old structure on Michigan avenue, and the necessity of having the banqueting hall on the eight floor, so that it is on the same level with the kitchen, which is in the old building, has introduced a story nearly twice as high as the other stories practically in the middle of the building. An interesting arrangement of fenestration is the result, and its success is attributable largely to the freedom of handling and the plastic quality of the design.

The Chapin & Gore building, in Adams street, has been reviewed before in these columns, but in this connection it is not out of place to call attention to it as another case of rigid adherence in design to functional demands. The piers and walls are of masonry construction, the lintels only being of fireproofed steel. The walls over openings are in all cases designed as self-carrying members, the lintel courses being merely decorative



THE MICHAEL REESE HOSPITAL.

29th Street and Groveland, Chicago.

Richard E. Schmidt, Garden & Martin, Architects.

or not more than drip mouldings. This seems to us to clearly declare the encased steel support, and also to have the merit of truth, as no flat arch or apparent surface lintel of masonry could. The entrances are of solid granite blocks, including the lintels which carry the piers above. It is a curious condition of affairs that in looking at them we are so accustomed to expect a sham that we cannot believe that these fine stones are anything more than thin slabs veneering a steel lintel within. It is worth noticing that on this building the masonry and the skeleton construction are clearly and frankly differentiated in every case. The curious treatment of the second and third stories results from the fact that these floors are used as storerooms for the shop below, and require large wall spaces and small windows, while the upper stories, with large glass areas, are lofts built for renting purposes.

The Schoenhofen warehouse, which has also been illustrated in these columns, is again printed in order to call attention to the same expression of concealed steel lintels and masonry walls, and also to show where a complete change of function has received a completely different treatment without disturbing the unity of the design as a whole. This is shown in the view of the street façade, in which the back part of the building has a group of high windows lighting a boiler room over which is a plain broad wall, concealing suspended coal bunkers. Above this wall is a group of smaller windows, which light and ventilate the coal piles. The front of the building is occupied as a warehouse, with regular stories.

The Brooks Casino is an auditorium

for band concerts. It is 80 feet in frontage by somewhat more in depth, and is spanned from wall to wall by steel trusses which carry the roof. It was desired to have the ceiling comparatively low for musical reasons. A concrete roof and ceiling was therefore combined, suspended from the trusses, following a curved line dropping to the eaves on each side of the building. This fact is clearly shown and used in the exterior as one of the principal motives of the design. A cantilever concrete balcony around the outside walls necessitates the division of the windows, and gives the building the appearance of having two stories.

In all of these buildings there was in each case a clear demand for a treatment new and modern. They are interesting for the frankness with which this demand has been met. In the remaining illustrations we have examples of originality, only less marked because less imperative. The handling of different materials has been the basis for the invention of new forms. Let the reader, for instance, study with care the illustration of the Majestic Bar. In the front of this structure the small façade is practically one sheet of delicately modeled cast bronze. The inside of this room is handled broadly in Swiss Cipolin marble, with logical recognition of its magnificent veining, and the purpose of the room is humorously handled in the sculptured decorations, where the dance is represented in the large relief panel and different varieties of vinous exhilaration in the six marble busts disposed along the bar screen.

*William Herbert.*



## ✓✓ A Pioneer American Architect

Up to the beginning of this century, with, perhaps, the single exception of Charles Bullfinch, the first native professional architect, the professional architects in this country, at least those worthy of the name, were of foreign

this land. The first principles of the art are unknown, and there exists scarcely a model among us sufficiently chaste to give an idea of them."

Six years after Jefferson wrote the above sentence a boy was born in Phila-



✓  
WILLIAM STRICKLAND, ARCHITECT.  
(1787-1854.)

birth and education, and even Bullfinch, it is to be noted, was educated abroad. American architects were slow in developing, and Thomas Jefferson, himself an amateur architect of no mean ability, writes in his notes on the State of Virginia, 1781: "The Genius of architecture seems to have shed its maledictions over

delphia, who, if he did not come as a reformer, was, at least, destined in later years to achieve a proud place by good work in the architectural annals of his day; and, coming at a time when American-born architects with talent or merit were few indeed, the career of William Strickland, who, during his time, was

very generally recognized as the leading native architect in America, should be of considerable interest. Yet the present age of progressive architecture has so far, in many respects, gone ahead of Strickland that his designs and works have become to an extent obsolete and his career has now been well-nigh forgotten, only occasionally to be recalled in a casual manner in connection with some of the buildings which he designed, and which will stand and at times assert their beauty and prominence to the at-

of this country to make a departure from the Colonial methods of house building and designs which had prevailed from the beginning; but in his drawings he followed, usually, the methods of his foreign-born predecessors in the profession.

Perhaps the particular reason why the life of Strickland is of interest in our day is because he was probably the first American born and educated architect to demonstrate that it was not necessary for his countrymen, when contemplating



THE U. S. CUSTOM HOUSE.

Philadelphia, Pa.

William Strickland, Architect.

tention of those who have occasion to come in contact with them.

William Strickland was a self-made man, and, as his career shows, he must have possessed considerable genius, as he acquired in his own land enough architectural training to design buildings of considerable extent and power, and to apply the forms of the pure classic order without committing glaring solecisms.

It cannot be said of him that he was the founder of any new or distinct school of American architecture, although he was among the first architects

the erection of important structures, to employ foreign talent to carry out their ideas, and that Thomas Jefferson's evil forebodings regarding the school of American architecture were soon to be set aside by a race of native architects, of which Strickland was the forerunner.

William Strickland commenced his career at a most interesting period in the history of American architecture, about the time when the Colonial methods were fast giving way to a revival, largely of the classic or pure Grecian style of architecture, brought about by Thomas Jefferson.

From all accounts, it appears that Strickland's first inclinations were not towards architecture as a profession, as at first he seemed to prefer the painter's brush and the tool of the engraver. He studied art and architecture in Philadelphia, under Benjamin Latrobe, an Englishman, who was an artist as well as an architect; and first set up in business for himself as a landscape painter. He soon acquired the art of engraving his pictures, many of his plates being

many years it was the pride and admiration of every Philadelphian, and was used not only for a meeting-place of the Masonic fraternity, but also as a hall where fairs and many other entertainments were held. The use of gas as an illuminating power in public buildings in Philadelphia was first tried successfully in Masonic Hall.

On the 9th of March, 1819, a fire, caused by a defective flue, broke out in Masonic Hall, and in an hour after the



THE U. S. MINT.

(Lately demolished and replaced by a new and larger structure on Spring Garden Street.)  
Philadelphia, Pa.

William Strickland, Architect.

printed in the "Portfolio," a magazine published in the Quaker City in 1814, 1815 and 1816. In view of the late date of the publication of some of his engravings, Strickland, even after he had abandoned painting as a profession for that of architecture, must still have indulged in his favorite pursuit as a pastime, as his first important architectural work was executed and finished as early as 1809, when the cornerstone of the Masonic Temple was laid.

The style of this structure was Gothic. The building was crowned with a steeple and a spire of reputed beauty. For

first alarm the flames were roaring and triumphing with vindictive fury within the walls of William Strickland's maiden architectural effort. In an hour or more the beautiful steeple had fallen, and by three o'clock the next morning the only memorials of the late Masonic edifice were the blackened walls, fitfully revealed by the light of burning embers. The destruction of this building, which was during its day probably the most important piece of architecture in Philadelphia, made a great impression on the minds of the citizens, and a large lithograph, picturing the burning of the



THE OLD MASONIC TEMPLE.  
(From a rare print.)

Philadelphia, Pa.

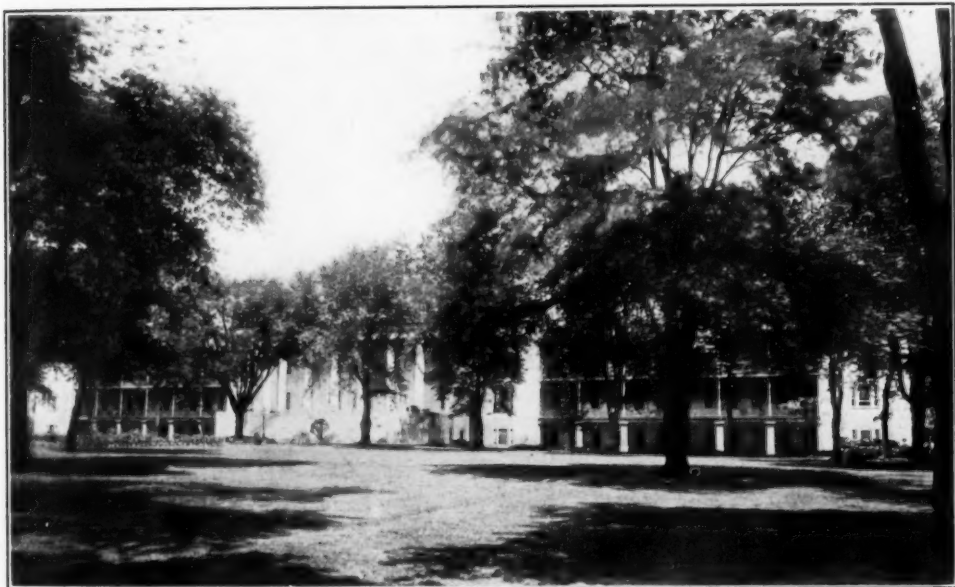
William Strickland, Architect.



building was shortly after published and had an extensive sale. The illustration accompanying this article, and copied from this lithograph, which is now quite rare and eagerly sought after by collectors of such material, furnishes a very fair idea of the general appearance of the Masonic Hall.

After executing his commission from the Masons, Mr. Strickland's next, and probably most important work in Philadelphia, was the United States Bank building, in Chestnut street, between Third and Fourth, now the Custom

steps, making the Parthenon fourteen feet wider and sixty-six feet seven inches longer than the Custom House. But, as the Parthenon has only three steps, while the Custom House has thirteen, extending thirteen feet on each front, the length of the buildings, respectively, including the steps, would be considerably varied, the length of the Custom House from the outer step being one hundred and seven feet, and that of the Parthenon two hundred and thirty-six feet nine inches. However, the double row of columns of the portico,



THE U. S. NAVAL ASYLUM.

Philadelphia, Pa.

William Strickland, Architect.

House, which, after an existence of over fifty years, is to-day acknowledged to be one of the attractive buildings in Philadelphia. In general appearance it resembles the Parthenon, although in general dimensions it is smaller than the latter building. Their respective proportions are: the Parthenon, one hundred and one feet one inch in front, excluding the steps, and two hundred and twenty-seven feet in length, excluding the steps; while the Custom House has a frontage of eighty-seven feet, excluding the steps, and is one hundred and sixty-one feet in length, excluding the

and the flanking colonnades of the Parthenon, requires so much space that the actual dimensions of the interior of the two buildings are much more nearly equal than their proportions would indicate.

The principal apparent differences to the casual observer in the exterior of the Custom House and the Parthenon are that the Parthenon has a colonnade on the flanks which is wanting in the Custom House, perhaps on account of the extra expense that it would have entailed. Another difference is the absence of the second row of columns on

the portico. These colonnades of the Parthenon are very rare in Greek architecture, as many Greeks doubted their artistic advantage, claiming that they had a tendency to complicate the simplicity of the style. There are eight fluted columns, each twenty-seven feet high by four feet six inches in diameter, supporting the portico of the front entrance, and the same number on the rear façade of the building.

square windows were above them. The roof stood gable fashion, rising above the third story. A niche near the apex contained a fine statue in wood representing Commerce and carved by William Rush, the first American sculptor. The principal stories of the building were of brick, while large warehouses were built back of the main structure for storage purposes. The building stood back from the street a distance of forty



INDEPENDENCE HALL.

Philadelphia, Pa.

(Remodeled by Strickland in 1828.)

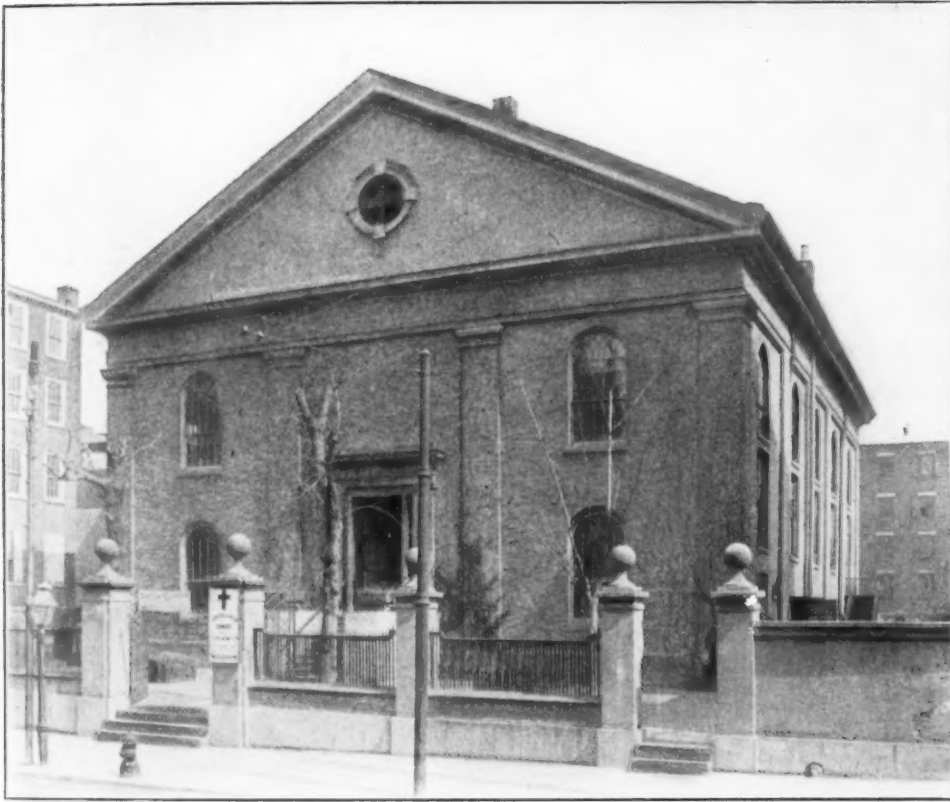
A curious item in connection with Mr. Strickland and the Philadelphia Custom House is that he not only designed the present structure, but also the first Federal building used for a Custom House in Philadelphia. This building was opened on the 12th of July, 1819. It was without architectural pretensions, apparently, being a plain building, three stories in height, the front of the first story of marble. The second story was lighted by arched windows. Small

or fifty feet. On Second Street, and protected by an iron gate, there was a heavy brick archway, with a wide passage in the center for drays and carts. Small entrances for pedestrians were on either side. From these entrances extended on either side of the archway a low wall, surmounted by iron palings. The entrance in front of the building was by a central doorway, which led to the main business room in the second story. In this building the business of the Phila-

delphia Custom House was carried on until 1845, when, the United States Bank having failed, the Federal government purchased its building, which has since been in use as a custom house.

In 1815, about the time that Mr. Strickland was commissioned by the government to design the first custom

was erected in the summer of 1815. It was built of brick, three stories in height, and contained one good-sized room on each floor. Although unpretentious in appearance, and lacking any architectural embellishments, this old building, which is still standing but sadly altered and in a dilapidated condition to the



ST. PAUL'S CHURCH.

Philadelphia, Pa.

William Strickland, Architect.

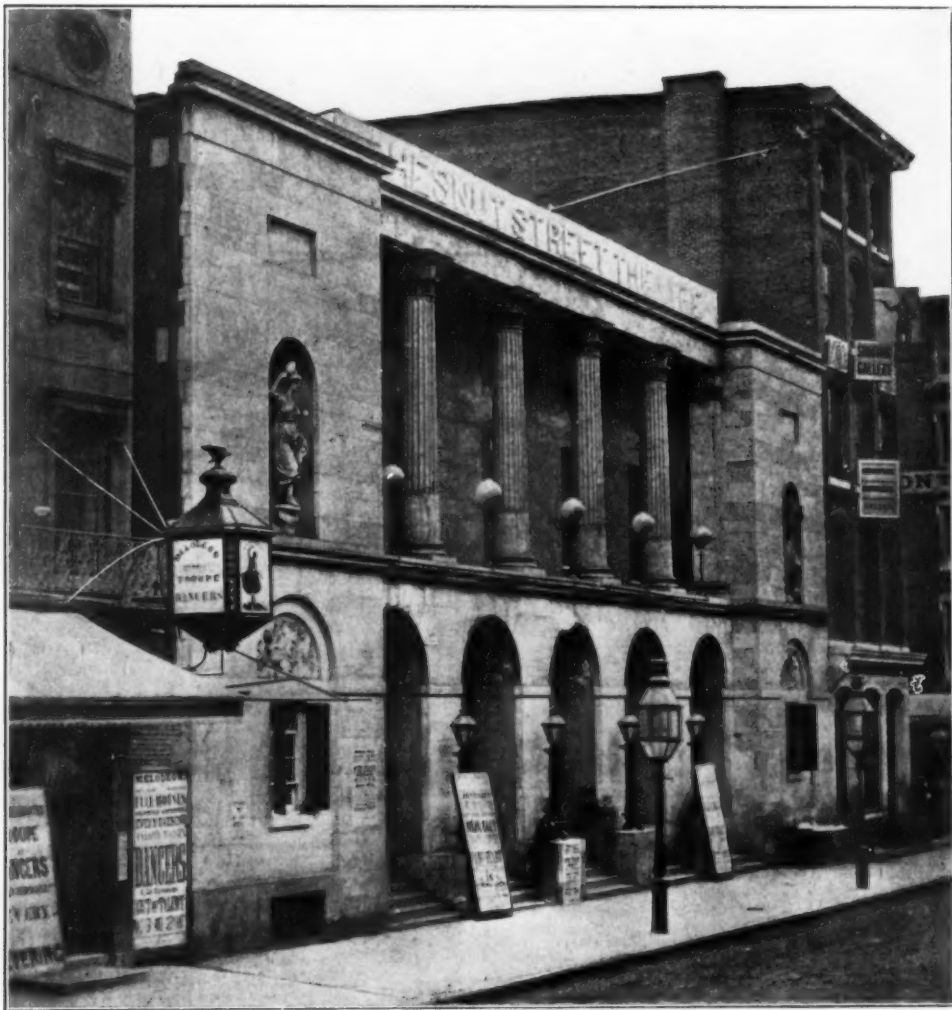
house in Philadelphia, he also received a commission from the managers of the Academy of Natural Sciences, now one of the foremost institutions of its kind in the world, to prepare plans for a hall. The collection belonging to the Academy having by that time outgrown its quarters in rooms on North Second street. Mr. Strickland's drawings called for an exceedingly plain building, which

rear of a court running off Arch street, between Front and Second streets, is interesting for two reasons. Firstly, because it was the original home of the Academy of Natural Sciences, and serves, by comparison with the magnificent building at Nineteenth and Race streets, which is now occupied by the Academy, to illustrate the growth and progress of this institution; and, sec-

only, as a specimen of Mr. Strickland's early and most unpretentious architectural efforts.

Judging from the great majority of his works, it is evident that Mr. Strick-

land took his place as one of the foremost of America's architects, and the number of commissions which he received must have been exceedingly gratifying to him.



THE OLD CHESTNUT STREET THEATRE.

(From a photograph taken in 1858.)

Philadelphia, Pa.

William Strickland, Architect.

land was an ardent admirer of Greek architecture, as the majority of the important buildings designed by him adhere closely to that classical style. After the completion of the Bank of the United States building, in

On the 2d of March, 1829, a resolution was passed by Congress making a liberal provision for the purchase of a suitable lot on which to erect a new mint in Philadelphia. In pursuance of this resolution, a plot of ground on the



northwest corner of Chestnut and Juniper streets, extending northward to Olive street, one hundred and fifty feet front by one hundred and four feet deep, was purchased. Mr. Strickland was employed to prepare a design for the building to be erected upon this property. He planned an edifice, employing the Ionic order, taken from the celebrated temple of Ilyssus, near Athens, designing a portico of sixty feet frontage, with six pillars of the Ionic order

garded as a model of architectural propriety, hardly to be surpassed in times to come; but the natural increase of business as the country enlarged in the past fifty years had necessitated several enlargements and architectural changes which were not to its advantage. It was recently demolished, and a new and much more spacious mint building on Spring Garden street replaces it.

Another government commission which Mr. Strickland satisfactorily executed



THE ARCH STREET THEATRE BEFORE ALTERATIONS.

(From an old print.)

Philadelphia, Pa.

William Strickland, Architect.

on the north and south fronts; the front was one hundred and twenty-three feet, and the building carried of that width from street to street one hundred and ninety-three feet, including therein two porticos, each twenty-seven feet in depth, making a building space one hundred and twenty-three feet wide by one hundred and thirty-nine feet deep, leaving small open spaces on the east and west. The form of the building was a quadrant, with an open court fifty-five by eighty-four feet in the centre.

This building, when finished, was re-

was for the United States Naval Asylum, on Gray's Ferry Road, in Philadelphia, which was commenced in 1827. The edifice faces east, and is constructed of grayish-white marble, with a granite basement. It is three hundred and eighty feet in length, and consists of a centre, with a high, broad flight of marble steps and imposing abutments and a marble colonnade and pediments. The wings are symmetrical and terminate in pavilions, or transverse buildings, at each end, furnished with broad covered verandas on each of the two main floors.

The building was first occupied in the latter part of 1832, but was not finished until 1848.

In 1828, when the city councils of Philadelphia determined to restore historic Independence Hall, Mr. Strickland

appears to have paid but little attention up to this time, but any one who has seen Independence Hall cannot but agree that the alterations which were made in it under Strickland's direction follow out closely and harmonize well with the



THE BLICKLY ALMSHOUSE.

Philadelphia, Pa.

William Strickland, Architect.

was invited to direct his attention towards the preparation of plans for that purpose. The first plans which he prepared were not satisfactory to councils, and he was compelled to modify them. Colonial architecture was one branch of his profession to which he ap-

pears to have paid but little attention up to this time, but any one who has seen Independence Hall cannot but agree that the alterations which were made in it under Strickland's direction follow out closely and harmonize well with the ideas of its colonial builders. The principal feature of the restoration appears to have been the rebuilding of the spire, which had been taken down, and putting a clock and bell therein, thus restoring the building to something like its appearance in 1776.

As a church architect, Mr. Strickland was much sought after, and some of the handsomest and most attractive old-time churches in Philadelphia fifty years ago were of his planning. Unfortunately, the majority of these sacred edifices have been taken down; only two churches designed by Mr. Strickland still stand in Philadelphia—St. Paul's Protestant Episcopal Church, on Third street, near Walnut, a very good example of this

were in his day the two leading theatres in Philadelphia—the old Chestnut Street Theatre, which was pulled down in 1854, and the Arch Street Theatre, which is still in existence, although much altered in appearance and now unused.

Although the Chestnut Street Theatre was generally admired, there was some criticism upon the design of the front, and one local poet, in referring to it, wrote as follows:



THE MERCHANTS' EXCHANGE NOW KNOWN AS THE STOCK EXCHANGE.  
Philadelphia, Pa.

William Strickland, Architect.

line of his work; and St. Stephen's, on Tenth street, near Chestnut. St. Stephen's is a much more ornate building than St. Paul's, which adheres closely to the Colonial style, while St. Stephen's, which was altered from another building, is of Gothic design. Its cornerstone was laid on the 30th of May, 1822.

As an architect of theatres, as well as a designer for buildings dedicated to church purposes, Mr. Strickland was equally in demand. He designed what

✓  
"Its columns Corinthian, in Italy sculptured,  
Attest how the arts 'mongst ourselves have  
been cultured,  
Fluted off and got up without flaw or disaster,  
What a shame they omitted to flute the  
pilaster!  
Their arrangement is neat and supporting—  
but, rot it!—  
A pediment only, the builder forgot it!"

From this poetical effusion it is to be judged that the architecture of the old Chestnut was in Mr. Strickland's favorite line—Greek.

The Arch Street Theatre was opened

about 1828. When finished it was regarded as distinctly in advance of the theatre architecture then in vogue. The front was of marble. A screen of columns projected nearly to the line of the street supporting a Doric frieze, and flanked by marble wings. The latter opened to the staircase and to the pit, which was reached by a descent from the street. In the face of the building, above the line of the second story, was built a huge marble block, out of which, several years after the house was opened, the sculptor Grevelot cut, in alto-relief, a figure of Apollo. In 1863 extensive alterations were made in the front of the theatre. Nothing remains of it to-day except the figure of Apollo, which was placed in a prominent position in the front of the building, above the line of the third story.

When the city of Philadelphia purchased two hundred acres of land on the west side of the Schuylkill River, for the purpose of erecting thereon an almshouse for the city poor, Mr. Strickland was called upon to submit a design for the buildings. He planned four distinct structures, disposed at right angles with each other and enclosing an interior space of seven hundred by five hundred feet. The men's almshouse fronts the southeast. The main building contains a portico ninety feet in front, supported by eight columns, five feet in diameter at the base and thirty feet in height, on the Tuscan order of architecture, built of brick and rough cast. The building is flanked by two wings, each two hundred feet in length, the portico being elevated on a high flight of steps rising before the basement story to those of the upper story, and thus giving to this group of buildings a commanding appearance. The almshouse was first occupied about the year 1835.

The necessity felt by the Philadelphia merchants for some common point of meeting, where they could talk over matters pertaining to their business, and arrange for purchases and sales, resulted, after a company had been formed known as the "Philadelphia Merchants' Exchange Company," in their giving Mr. Strickland an order to prepare plans for a suitable structure for their ac-

commodation. The cornerstone of this building was laid on the 22d of February, 1832, and it was opened for business early in 1834, and is at present the Stock Exchange. It is built of Pennsylvania marble, and is in the shape of a parallelogram, having a frontage of ninety-five feet on Third street and a depth of a hundred and fourteen feet on Walnut street, and is one of the most unique and original of Strickland's buildings. There is a semicircular attachment in the rear with a radius of thirty-six feet, which makes the total length, from front to rear, one hundred and fifty feet. The semicircular portion is embellished with a portico of eight Corinthian columns and antae. A circular lantern rises forty feet above, and is pierced with windows and ornamented. The building was of striking appearance; the photograph which we reproduce herewith was taken after needful alterations had been made.

Mr. Strickland died in 1854, while engaged in superintending the construction of the State House at Nashville, Tenn. By a vote of the Legislature of that State, a tomb was prepared for his remains in the splendid edifice which he was constructing, and there his body was deposited. On a slab in the tomb is this inscription: "William Strickland, architect of this building, born at Philadelphia, 1787; died at Nashville, April 7, 1854."

Strickland's last great architectural effort was, in style, not a departure from his favorite Greek architecture. It is a white marble building, with high Greek porches supported by eight Corinthian columns at each end. In the centre of either side smaller porches, supported by six Corinthian columns each, have been placed. The building is crowned with a small tower, which is capped with a circular lantern, pierced with windows and ornamented. This lantern is much the same in appearance as the one which rises above the Stock Exchange in Philadelphia.

The State House at Nashville stands on a high eminence, some little distance back from the street. It is approached along pretty walks, laid out through grounds well cultivated with trees and



flowers, which add greatly to the attractiveness of the building, forming a background for it of living green that tends to heighten the whiteness of the marble of which it is built, and to present the building in strong contrast to its surroundings. To architects of the present day, this old-fashioned structure, if examined closely, would probably be found to possess many glaring crudities;

work was commenced in 1829, and was an engineering feat of considerable magnitude.

Besides being an artist, architect and engineer, Mr. Strickland was also the author of several pamphlets; among them may be mentioned "Triangulation of the Entrance into Delaware Bay," "Reports on Canals and Railways" (1826), and, together with Gill and



THE STATE HOUSE.

Nashville, Tenn.

William Strickland, Architect.

but, as a specimen of the work of a native American architect of fifty odd years ago, it can hardly be regarded in any other light than as a very creditable piece of work for the period in which it was designed and planned. Mr. Strickland was one of the first American architects and engineers to turn his attention to the construction of railroads, going abroad to study the best systems in vogue on the Continent. On his return he built the Delaware breakwater for the United States government. This

Campbell, "Public Works of the United States" (1841).

This is a glimpse of the life story of William Strickland, whose corner in the history of architecture in America has been much neglected of late years, although he appears to have been the first American architect, born and educated, who succeeded in winning for himself a renown which made him the equal of some of the leading foreign architects of his age.

*E. Leslie Gilliams.*



St. Louis, Mo.

TEACHERS COLLEGE.

W. B. Itner, Architect.



St. Louis, Mo.

COTE BRILLIANTE SCHOOL,

W. B. Ittner, Architect.

# NOTES & COMMENTS

## ST. LOUIS SCHOOL BUILDINGS

There is a growing suspicion among architects that the building of St. Louis, in several departments, deserves more attention outside of St. Louis than it has thus far received. Mr. Ittner, the architect of the St. Louis schools, has lately been publishing a series of illustrations of the school buildings erected from his designs which confirms this suspicion as to those edifices. His description is illustrated with plans and sections and details which should be very useful to architects engaged upon similar tasks elsewhere. But the photographs of the exteriors make a most favorable impression upon disinterested lovers of architecture whose only care respecting the school buildings of St. Louis is that they should be worth looking at. Even visitors to the Louisiana Purchase Exposition, unless they happened to be specialists, did not pay as much attention to the ordinary and unexpositional architecture of the city as it deserved. Moreover, some of the most interesting and typical of the school buildings had not at that time been erected. So that the accompanying illustrations of the school architecture of St. Louis will, to many if not to most of our readers, have the attraction of novelty in addition to their intrinsic attractions.

While waiving any intention of discussing the special requirements of school houses, we may point out that there is one fact about them, one element in the problem, which compels attention, for it forces itself upon the notice even of the beholder of the exteriors. That is the need for light, for more light, for all the light. In fact, this is also the, or at least a, primary requirement of the skyscraper. The invention of the skeleton construction has in the skyscraper enabled this requirement to be met far more satisfactorily than it ever could have been met if the architects had been confined to an actual masonry construction. But in fact if architects were confined to an actual masonry construction there would have been no skyscrapers at all. So much space would have been absorbed in the actual thickness of the necessary walls that inordinate altitudes would have lost their economical excuse for existence. Ten stories, it appears, would have been the maximum that would have been attained if the steel frame had not come in to supplement the skyscraper as the other factor of the tall building. The steel frame enables even a lofty tower to be constructed as a sash frame. The school buildings of St. Louis are no more skyscrapers than those which have been erected under Mr. Snyder's administration in New York. Not so much, for three stories appears to be the maximum in St. Louis school building,



St. Louis, Mo.

WYMAN SCHOOL.

W. B. Ittner, Architect.

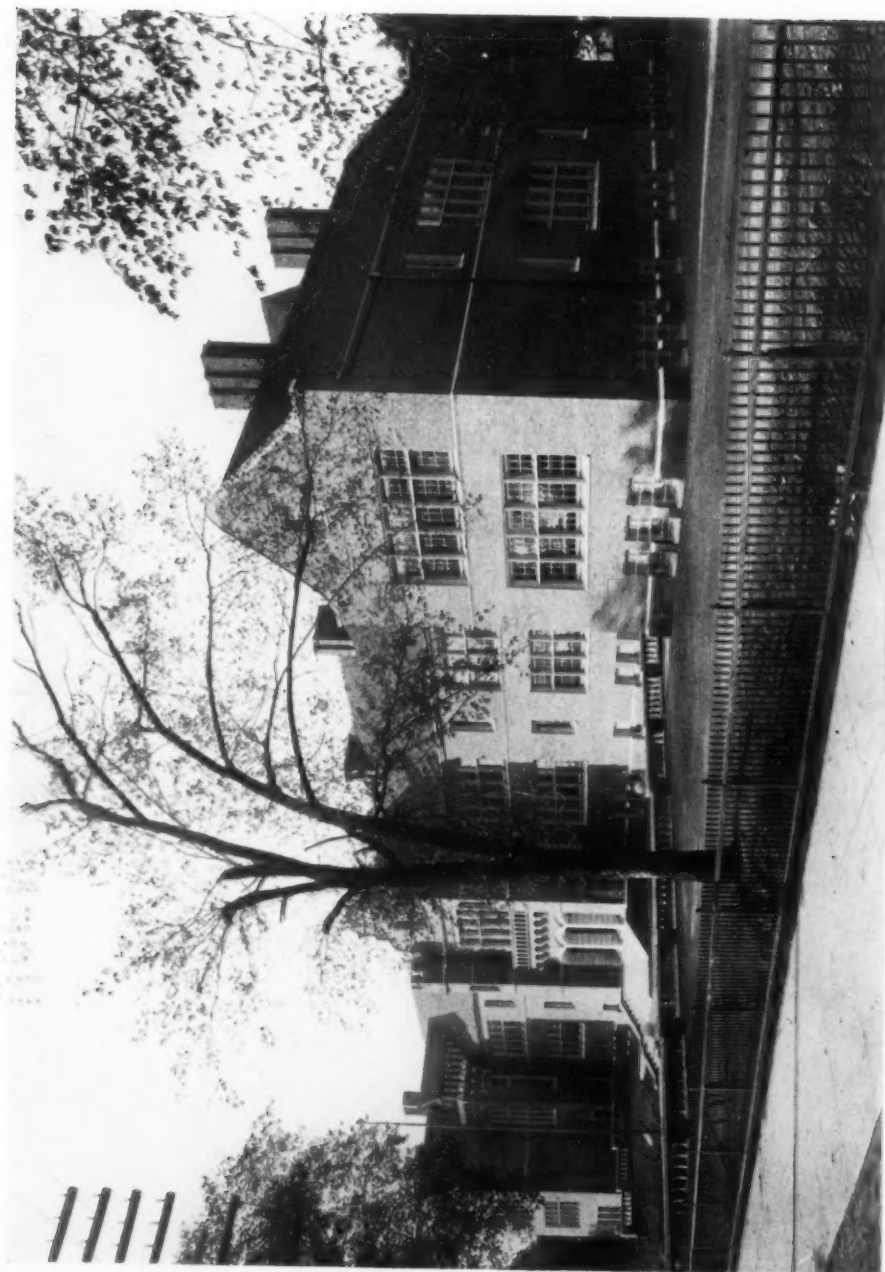


St. Louis, Mo.

CLARK SCHOOL.

W. B. Itner, Architect.





W. B. Itner, Architect,

HEMPSTEAD SCHOOL,

St. Louis, Mo.

whereas New York school building goes a story or two higher. But Mr. Ittner's schools bear a family resemblance to those of Mr. Snyder, a family resemblance due, one may suppose, not to imitation but to a

wall and sturdy pier, from the general want of massiveness. Nobody would think of imputing this want of massiveness to the designer as a fault. In each case his work signifies that he is keenly alive to it, and



LAFAYETTE SCHOOL—ENTRANCE.

St. Louis, Mo.

W. B. Ittner, Architect.

compliance in each case with the same set of practical requirements. And in each case the first of these requirements being abundant light, the architecture suffers from it, suffers from the want of unbroken

would be only too glad to help it if he could. Being compelled to build a sash frame he honestly builds a sash frame and does not attempt to "palliate or deny" the skeleton character of his architecture. But it re-

mains true that a building all sash frame cannot be as welcome a work of architecture as a building in which the openings are visibly and emphatically framed in their enclosing masonry.

In the respect to which we have referred, the respect of their comparative lowness,

can afford to limit yourself to three. Similarly two are more eligible than three. Look for example at our illustration, the Teachers' College. It is not, we admit, one of the most fortunate of the designs of its author, being not only without a skyline, but having also the air of a building to



McKINLEY HIGH SCHOOL—DETAIL OF ENTRANCE TOWER. ST. LOUIS, MO.  
St. Louis, Mo.

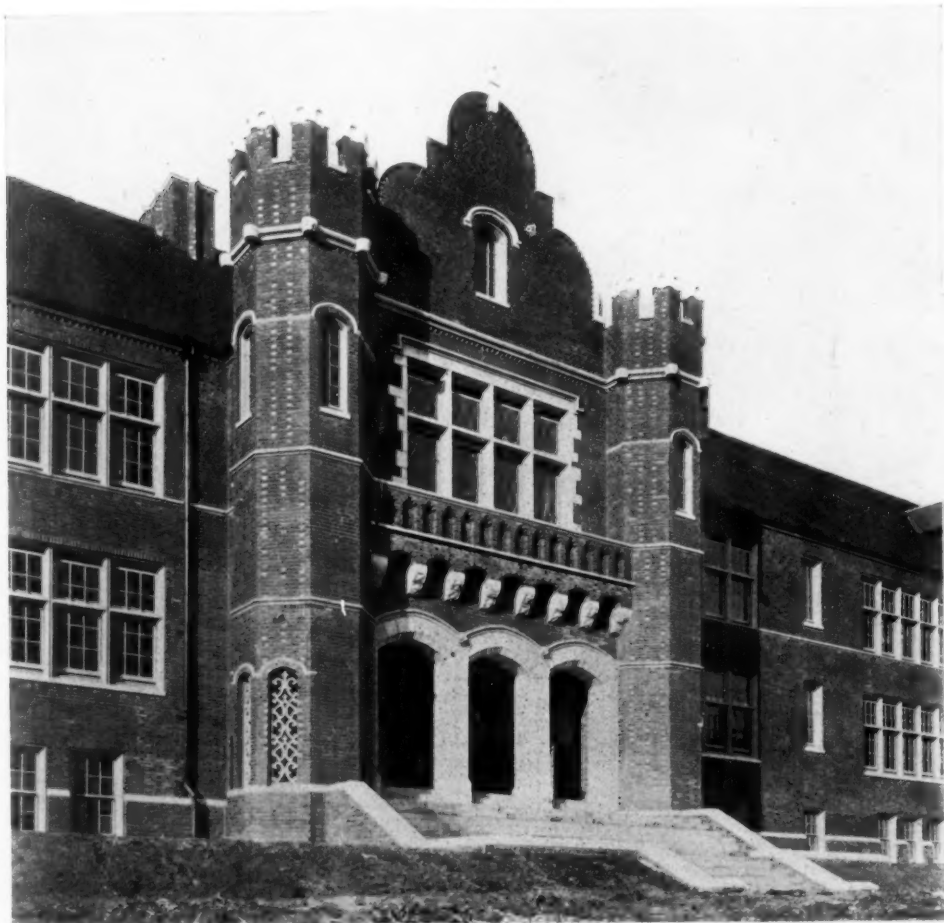
W. B. Ittner, Architect.

the school buildings of St. Louis enjoy a great architectural advantage over those of New York, an advantage apparently due to the lower degree of congestion and the consequent lower cost of land. Three stories of school house are architecturally as well as practically more eligible than four, if you

which the roof has not yet been added rather than of a building which was designed to be complete without a visible roof. How much more effective in this respect is the McKinley High School, in which the absence of a simple roof is cleverly compensated by the framed arcades of the parapet.

Apart from the central pavilion containing the entrance the Teachers' College is but a bald factory, upon the appearance of which it might be supposed that the designer had never wasted a thought. And the effect of the entrance pavilion is in great part lost by the lack of a more vigorous projection, and also, as the photograph of the detail

School, the Cote Brillante School differ considerably among themselves, although all variants of a single essential scheme. But they all have the advantage over the Teachers' College of a lowness which emphasizes their horizontal expansion, and it is in this that their common architectural advantage mainly consists. It consists also



HEMPSTEAD SCHOOL—ENTRANCE. ST. LOUIS, MO.

St. Louis, Mo.

W. B. Ittner, Architect

shows, by the lack of some little flank of curtain wall before the occurrence of the sash frame. But after all a main explanation of its want of effect in comparison with others of the series is its greater height in proportion to its expanse. The Shepard School, the Clark School, the Hemstead

in the fact that each of them has a visible roof, and that the visibility of the roof enables and almost compels a greater variety and interest of outline than would otherwise be attainable. One has with some of them, and notably with the Clark School, again to deplore, as in the Teachers' Col-

lege, the lack of a more decided projection of the central pavilion. But in all four one has to acknowledge the existence of a composition, and in the treatment of the terminal gables of the Hemstead, and of the whole frontage of the Cote Brillante, which seems upon the whole the most successful of

ing an excess of voids over solids, and not seeming to have been designed under pressure to produce a sash frame.

Another great and indeed inestimable advantage the St. Louis schools enjoy over those of New York doubtless proceeds from the same cause of the less exigent demand



FRANZ SIGEL SCHOOL—ENTRANCE.

St. Louis, Mo.

W. B. Ittner, Architect.

the four, an extremely taking composition, with the comparative lowness always counting for much in the attractiveness of the front. In the two cases last named, indeed, the architect seems to have succeeded in circumventing even his primary requirement, his broad and low casements not giv-

ing space or the more abundant supply of it. The Western official architect cannot only afford to build lower than the New York official architect, he can also afford himself the luxury of enough ground round about his school house to give it a suitable frame and setting, and to give the building



itself a detachment which is particularly desirable, architecturally and practically, for a school building. The New York school has to be pushed forward to the actual "building line" at the edge of the sidewalk.

these photographs with the pictures of one's own local school houses that every New Yorker can see in his mind's eye to be assured what a great advantage this is. It makes less explicable the timidity of the St.



BLOW SCHOOL—ENTRANCE.

St. Louis, Mo.

W. B. Ittner, Architect.

Indeed, one equally admires and marvels at the liberality of St. Louis in this respect. The foreground is not even a playground. Its careful planting and well kept terraces show that. It is only necessary to compare

Louis architect in not projecting his entrance pavilions vigorously enough to give them their due architectural effect, in those instances in which he has failed to do so. For, after all, the one picturesque feature

which the Procrustean and imposed plan of a school house leaves architects free to create is precisely this. "They have their exits and their entrances," and with them the possibility of effectively relieving, even a box

often be signalized and made architecturally effective. The projected room of the Patrick Henry School, with its ingenious and structural employment of brickwork, or that over the entrance of the Lafayette School,



SHEPARD SCHOOL.

St. Louis, Mo.

W. B. Ittner, Architect.

of sash frames, if such a box they are doomed by their conditions to produce. But it will be seen that the St. Louis official architect has found or made other chances. The principal's room, one would say, may

with its corbelled balcony, affords a good illustration of the manner in which the monotony of a long front can be relieved while the effectiveness of its extent is retained. And the entrances are almost in-

variably treated appropriately and well, equally well in a great variety of styles. For one cannot say that the architect seems to be more or less at home in the collegiate Gothic of the entrance to the Wyman, the Hemstead or the McKinley, the "cottage Gothic" of that to the Shepard or the Emerson, the Jacobean garden fronts of the Blow, the Cote Brillante or the Teachers' College, the Renaissance of the Franz Sigel or the Eliot, or the Colonial of the Clay. It will be agreed that it is a very interesting collection of photographs and indicates an exemplary treatment of school houses, on the part of taxpayers and municipal officials as well as of the actual designer.

#### LOS ANGELES AND THE BILLBOARDS

The Los Angeles billboard ordinance has been a good deal written about and, as it proves, with much of error and exaggeration. Even here it was stated, on the strength of a widely printed note, that the billboard tax in Los Angeles was bringing \$52,000 a year to the city. The "City Billboard Inspector" sends word that it will yield about a tenth of that sum. The billboard ordinance, of which he submits a copy, prohibits any board "more than ten feet in height above the surface of the ground," advertising signs painted on buildings, however, being excepted. It requires written application, with full particulars, for all except the small boards, and then a permit from the Board of Police Commissioners. No billboard, other than those attached to buildings, shall be within twenty feet of the line of any street or other public place. Persons, firms or corporations desiring to carry on the business of bill posting or sign advertising are required to pay a license fee of \$50 for the first quarter or unexpired balance thereof; and those already carrying it on pay a quarterly license tax of "one-quarter of a cent per square foot of the superficial area" maintained by them—advertisers of real estate being exempt in making announcements as to real property. The tax seems to have had little or no restraining effect on the billboard business, for the city has at least as many as other cities of its size. It has possibly resulted in the painting of rather more than the usual number of signs on buildings. But the office records at least are very interesting. They are arranged in a card catalogue, each of the several bill posting firms which do business in Los Angeles being represented by a card of different color. These cards are then

arranged according to streets, and on each card a neatly made diagram shows the exact location of the board. Other full data is added. In this connection it may be remarked that Los Angeles is unique, probably, among American cities in a prohibition of electric signs across the sidewalk. The gain in the dignity of the city's night aspect is really surprising. The prohibition arose out of the citizens' pride in their ornate and very costly system of lighting the business streets.

#### PARKS FOR DUBUQUE

The report on the improvement possibilities of Dubuque, Iowa, recently obtained from Charles Mulford Robinson, was secured by a joint committee representative of the Commercial Club, the Federated Women's Club and the Trade and Labor Congress. Unanimity of interest on the part of the community was thus assured. The report had to do mainly with the park needs of the city. These are great because, endowed with a singularly picturesque location on bluffs overlooking the Mississippi River, the town's park possessions consist of only a couple of quares, each a block in extent, and of such character as any town on the prairie might have. Dubuque, in fact, is one of the very few cities of its size in the United States that has not even a park commission. The report, which went into the local possibilities of a park system, and the need for it, with a good deal of thoroughness, aroused so much popular interest that a commission is now about to be secured.

#### CHURCH IN A THEATER

The new Auditorium at Los Angeles—its completion about a year ago almost removes it from the catalogue of "new" structures in that fast changing city—is one of the most beautiful and notable in the United States. Indeed, the tourist, entering by the broad marble foyer that circles it, and taking a balcony seat at the side commanding a view of the whole house, is likely to think of Paris rather than of America, and with a shock realizes that the West really has "grown up." For a month in the autumn, grand opera held the boards every week day night—as it did last year too—and the months when the program is not grand opera, it is something else, less dignified.

But regularly—whatever the ballets or

other frivolities of the week—when Sundays roll around the big auditorium is thronged again, morning and evening. For above all else, the auditorium is the home of Rev. Dr. Robert J. Burdette's Temple Baptist Church, and as such it is a remarkably interesting ecclesiastical structure. Outwardly, it is not churchly. With its nine or ten many windowed stories, its

in the shuffle. Still, one day a week it asserts itself within, congregations filling most of the 3,000 seats at two services, and a prayer meeting sanctifying the smaller auditorium with its thousand and fifty seats. The service is dignified, and when the notes of the big organ accompany a couple of thousand voices on a familiar hymn, there is an effect that may well



PATRICK HENRY SCHOOL—ENTRANCE.

St. Louis, Mo.

W. B. Ittner, Architect.

nearly square area—165 by 175 feet—it is more like a commercial structure, or, in the ornateness of its façade, a hotel. The broad and conspicuous marquise is suggestive of a theatre; and there are in fact three large auditoriums under the one roof, and 150 office rooms, besides committee rooms and various other apartments, so that, being all of these other things which it suggests, it is not strange that modern ecclesiasticism is lost

make the straying grand opera goer sit up and take notice.

The auditorium was built primarily, it is said, for the church, mainly by the pastor's wife, but no one can help the feeling that the church is in the theatre, and not the theatre in the church—the better feeling of the two to have, no doubt. Dr. Burdette, who is a plain little man, is "discovered" in the glare of the footlights to be at "right



St. Louis, Mo.

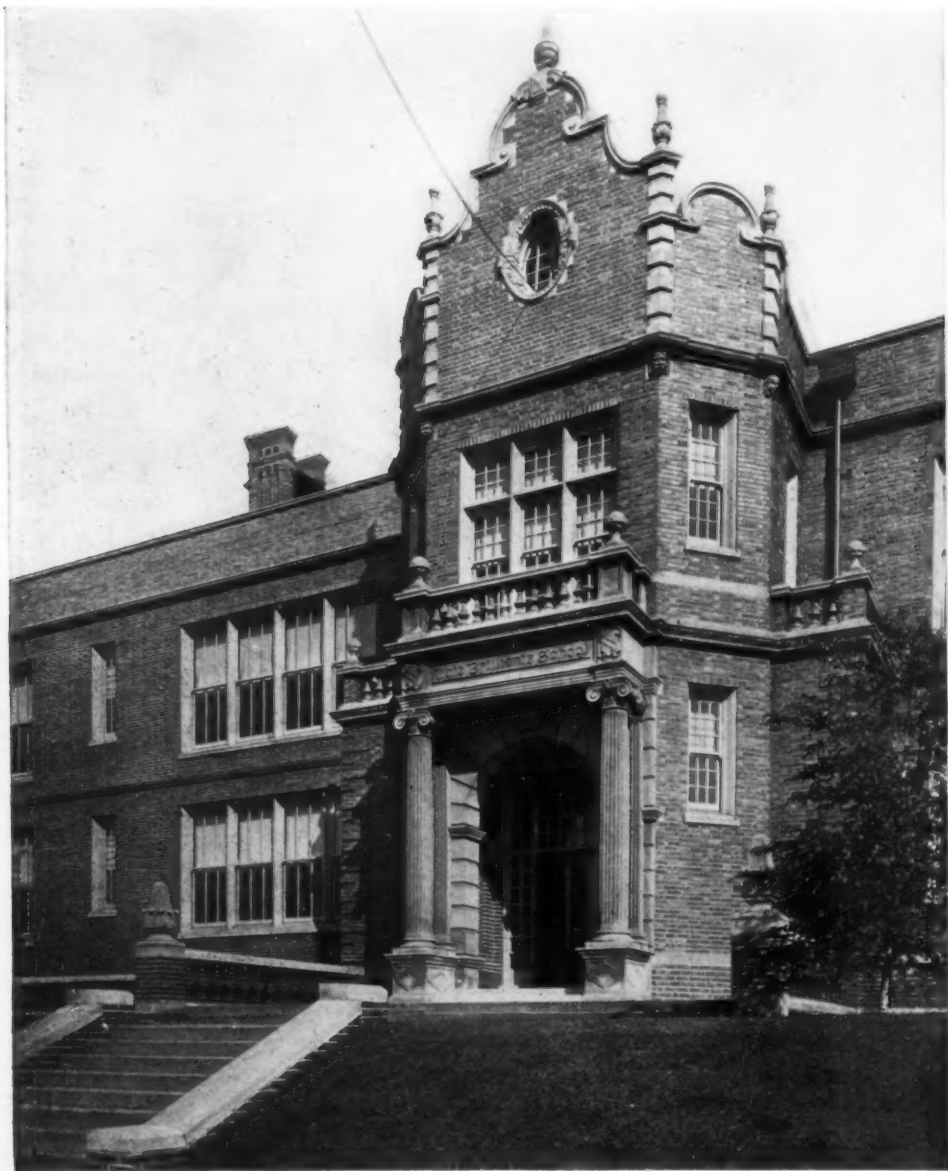
EMERSON SCHOOL.

W. B. Ittner, Architect.



center," ensconced in a massive gilt and brocade chair, such as DeWolf Hopper would have graced in a royal role, and the very hassock that you would expect, of gilt

chorus choir is seated on tiers of seats, may be of wood; but if it is, it was alid in for the occasion. The Sunday the writer was there the organ offertory was the Inter-



St. Louis, Mo.

COTE BRILLIANTE SCHOOL—ENTRANCE.

W. B. Ittner, Architect.

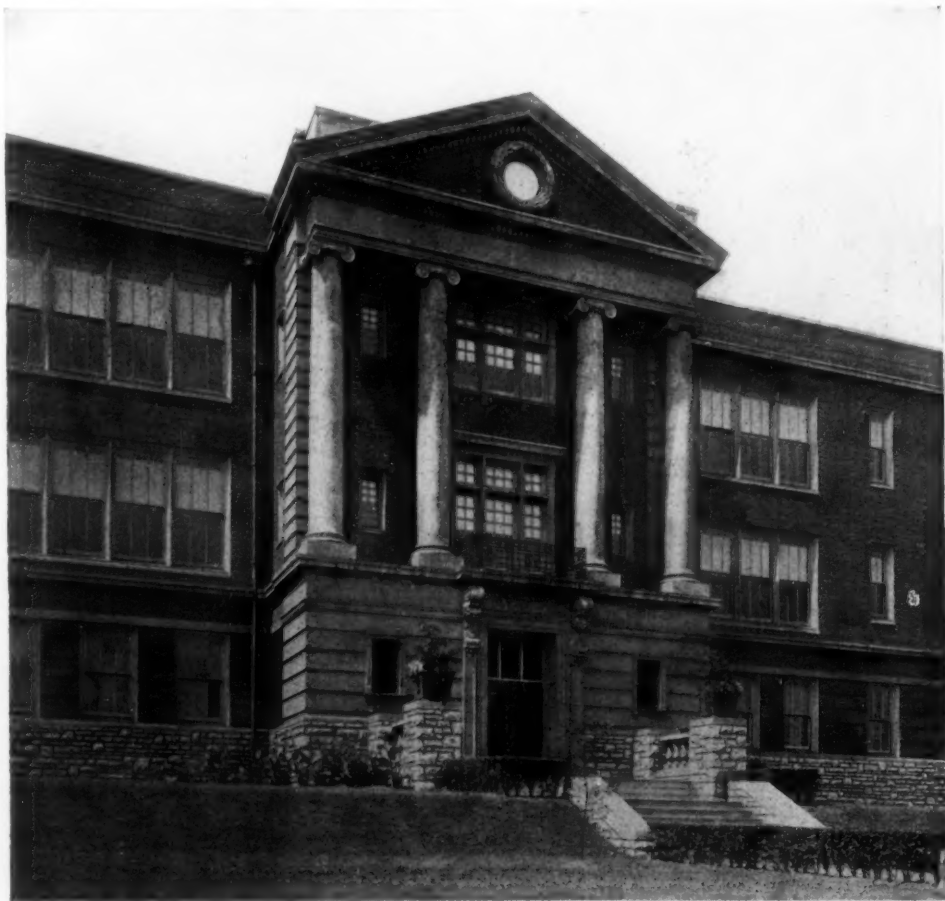
and brocade, is under his feet. The stage is set for a church scene, even to stained glass windows at the rear, but you know it is all canvas. The Gothic rail behind which the

mezzo from *Cavalleria Rusticana*—quite as if, at a moment when Dr. Burdette was not looking, it had dropped down from the ceiling a relic of the night before.

HOTEL  
DECORATION

Of all the poor and weak names that have been given to great hostelrys that of Chicago's Auditorium Annex is probably the worst. And now the big Annex is itself getting a big annex to which there seems to be no proper title except Auditorium An-

Herald Isabel McDougal has contributed a description of the decorations of the new banquet hall. It is a vast and gorgeous Louis XVI. apartment, with a "ceiling strongly reminiscent of the Hotel de Ville of Paris." This ceiling consists of five panels set in massive gold moldings, each panel containing a painting by William D. Leftwich Dodge, relating to the story of Eurydice. Cupids lean over a balustrade



St. Louis, Mo.

CLAY SCHOOL—ENTRANCE.

W. B. Ittner, Architect.

nex Addition. It is again a case, judging from descriptions and reckoning of costs, of *flia pulchrior*, and one wonders—with this fact thrust prominently before one—whether after all the whole scheme may not be a Chicago device for imparting an ancestral atmosphere to a new hotel. The traveler is presented a group picture of three generations. To the Chicago Record-

at opposite ends, and in the center "boldly foreshortened gods and goddesses" drape themselves over floating clouds. The ribs of the ceiling extend down to a gallery which, with a rail of gilt ironwork runs around the entire hall. To the gallery open four arched doorways in ornate gilded moldings. The wall space between the doors is lavishly ornamented with molded garlands

and blue medallions on which float delicately white figures in flying vells and draperies. There is a statue at each corner of the hall, and over the doors in high relief are groups of piping shepherds and

smaller but ornate adjoining salon, and beyond that the stately Tudor Hall.

It has seemed worth while to note with some detail these decorations, accepting this new hotel as a type of many that have lately



WYMAN SCHOOL—ENTRANCE.

St. Louis, Mo.

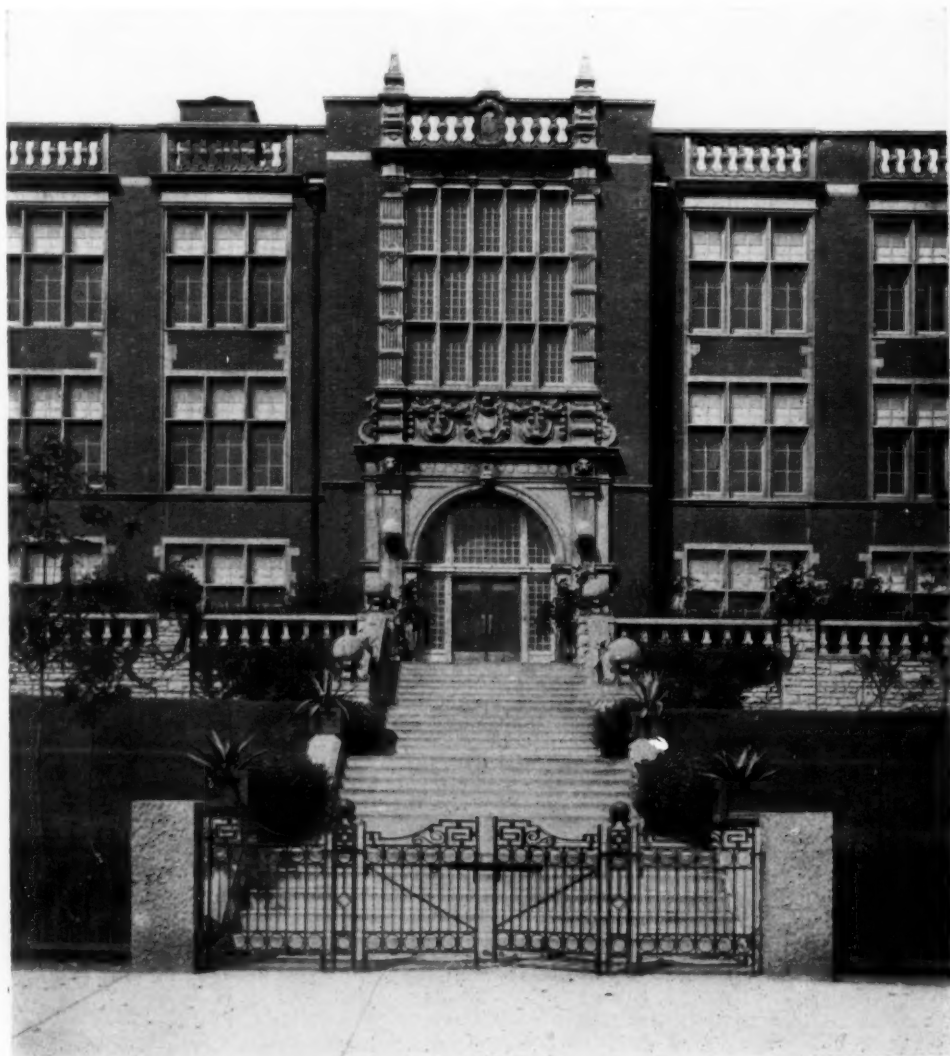
W. B. Ittner, Architect.

listening nymphs. To all of this one must add huge chandeliers, draperies of old rose velvet, glittering side lights and many mirrors. If it "looks like money," it also—we are told—looks like art, which is a none too common combination. Then there is the

been constructed, offering a type of decoration with examples of which—in hostelry, club, apartment house and restaurant—New York is simply bursting. The old song, "I dreamed that I dwelt in marble halls," evidently expresses a common yearning of man,

or more frequently of womankind. Only now, for a comparatively moderate consideration, one actually can dwell for a space in a mahogany chamber, with marble bath-room, and Louis XVI. halls of splen-

ing world. It is not alone in the gilded East of golden America—in New York, Philadelphia, Boston, and Washington. Dirty London, gay Paris, modern Berlin, the Swiss resorts, all have something of the sort. The



St. Louis, Mo.

TEACHERS' COLLEGE—ENTRANCE.

W. B. Ittner, Architect.

dor, and such countless numbers do so dwell as to enrich the builders and proprietors. One is tempted to venture an essay on the historical, psychological and artistic aspects of the situation. It certainly is something new. And it has spread all over the travel-

ing world. It is not alone in the gilded East of golden America—in New York, Philadelphia, Boston, and Washington. Dirty London, gay Paris, modern Berlin, the Swiss resorts, all have something of the sort. The hotel described is in Chicago; but a new hotel in Omaha differs only in size. San Francisco, Los Angeles, Seattle—wherever the trail of the tourist leads, château or palace has arisen. And the curious, even the pitiful thing about it is that they are all

just alike. It would seem as if the style must certainly affect our domestic architecture, unless its complete lack of domestic feeling saves us. It is so palpably public, or semi-public, that perhaps the traveling multitudes who are unimaginative do not associate the splendor with their own homes. To most of them, be it noted, train time is the Cinderella stroke of twelve, when all the gaudiness drops away. But they have had their dream, have bought their souvenir postals, and have paid their bills, and maybe they can come again. Meanwhile, it is encouraging to observe that there are enough intelligent persons, who are becoming satiated with a sameness of glit and rose, to create a profitable demand for the thoroughly comfortable, individual, and even cosy big hotel. That is beginning to give to American architects a new opportunity, which is interesting and really worth while.

#### THE ARCHITECT- URAL LEAGUE OF AMERICA ESTABLISHES INDIVIDUAL MEMBERSHIP

It will be of special interest to architects and architectural draftsmen to learn that the Architectural League of America has established an Individual Membership for persons who are not members of the various clubs of the League but who are interested in the study and promotion of Architecture and the allied arts and professions.

Such persons will be entitled to membership in the League with all the privileges pertaining thereto, except voting at the annual convention. They may participate in all conventions with the privilege of the floor.

They are also eligible to compete for the Traveling Scholarship offered by the League, and for Fellowships offered by several universities.

Further information and applications for membership can be secured by communicating with H. S. McAllister, Permanent Secretary, No. 729 15th Street, N. W., Washington, D. C.

#### REINFORCED CONCRETE CONSTRUCTION\*

The interest that now exists in the engineering and architectural professions in regard to reinforced concrete construction gives to this volume, in an unusual degree, the value of timeliness. The authors say that they have endeavored to cover, in a systematic man-

ner, those principles of mechanics underlying the design of reinforced concrete, to present the results of all available tests that may aid in establishing coefficients and working stresses, and to give such illustrative material from actual designs as may be needed to make clear the principles involved. This program has been carried out remarkably well. We have gone carefully through the work and have no hesitation in recommending it, especially to the busy man who wants to get quickly at well digested "results." The architect will be particularly pleased with the analytical treatment of the arch with diagrams, and the other tables and diagrams that are brought together in Chapter IV. The book is well printed, the diagrams are carefully made with thoroughly legible lettering (a merit frequently lacking), and is provided with an index which we think could have been expanded somewhat with advantage.

#### SAINT GAUDENS BY ROYAL CORTISSOZ\*

By the death last summer of Augustus Saint Gaudens America lost one of her greatest sculptors and the world one of its finest artistic minds. So distinguished a figure in contemporary art was deserving of prompt and fitting commemoration, and the object of this notice is to call attention to the delicate treatment which he has received at the hands of Mr. Royal Cortissoz, the art critic who can justly claim a knowledge of the man, having enjoyed for many years an intimate friendship with the great sculptor. "Saint Gaudens was," says Cortissoz, "not only our greatest sculptor, but the first to break with the old epoch of insipid ideas and hidebound academic notions of style, giving the art a new lease of life, and fixing a new standard." The book as a whole is a commendable piece of critical and biographical prose.

The twenty-four illustrations in photo-gravure are fine, being the first attempt to bring together a complete series of Saint Gaudens' work. In appearance the book is an attractive tall quarto handsomely printed.

The house of Mr. Edward L. Swift, at Lake Geneva, Wisconsin, which appeared in the December issue, is to be attributed to Messrs. Shepley, Rutan & Coolidge and Mr. H. V. D. Shaw as associated architects, and not solely to the latter, as printed in that issue.

\*Principles of Reinforced Concrete Construction, by F. E. Turneaure and E. R. Maurer, published by John Wiley & Sons, New York, and Chapman & Hall, Limited, London.

\*Augustus Saint Gaudens. By Royal Cortissoz. Illustrated. Houghton, Mifflin and Company, Boston and New York. 1907.